```
     FILE 'REGISTRY' ENTERED AT 11:04:42 ON 16 APR 2010
L1                STRUCTURE UPLOADED
L2              1 S L1
L3             18 S L1 SSS FULL

     FILE 'HCAPLUS' ENTERED AT 11:05:38 ON 16 APR 2010
L4              6 S L3

     FILE 'STNGUIDE' ENTERED AT 11:35:28 ON 16 APR 2010

     FILE 'HCAPLUS' ENTERED AT 11:39:00 ON 16 APR 2010
L5          35183 S OLIGOSACCHARIDE OR OCTASACCHARIDE OR DECASACCHARIDE OR DODECA

     FILE 'STNGUIDE' ENTERED AT 11:39:05 ON 16 APR 2010

     FILE 'HCAPLUS' ENTERED AT 11:39:24 ON 16 APR 2010

     FILE 'STNGUIDE' ENTERED AT 11:39:27 ON 16 APR 2010

     FILE 'HCAPLUS' ENTERED AT 11:39:38 ON 16 APR 2010

     FILE 'STNGUIDE' ENTERED AT 11:39:41 ON 16 APR 2010

     FILE 'HCAPLUS' ENTERED AT 11:39:59 ON 16 APR 2010
L6             88 S GLUCOPYRANOSYL (4A) (GLUCURONIC OR GLUCOPYRANOSYLURONIC OR GL
L7              7 S L5 AND L6
L8              5 S L7 AND (PY<1998 OR AY<1998 OR PRY<1998)
```

```
=> file registry
COST IN U.S. DOLLARS                                  SINCE FILE      TOTAL
                                                           ENTRY    SESSION
FULL ESTIMATED COST                                         0.22       0.22

FILE 'REGISTRY' ENTERED AT 11:04:42 ON 16 APR 2010
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STRUCTURE FILE UPDATES:   15 APR 2010  HIGHEST RN 1219365-56-6
DICTIONARY FILE UPDATES:  15 APR 2010  HIGHEST RN 1219365-56-6

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TSCA INFORMATION NOW CURRENT THROUGH January 8, 2010.

  Please note that search-term pricing does apply when
  conducting SmartSELECT searches.

REGISTRY includes numerically searchable data for experimental and
predicted properties as well as tags indicating availability of
experimental property data in the original document.  For information
on property searching in REGISTRY, refer to:

http://www.cas.org/support/stngen/stndoc/properties.html

=>
Uploading C:\Program Files\STNEXP\Queries\10677894generic.str
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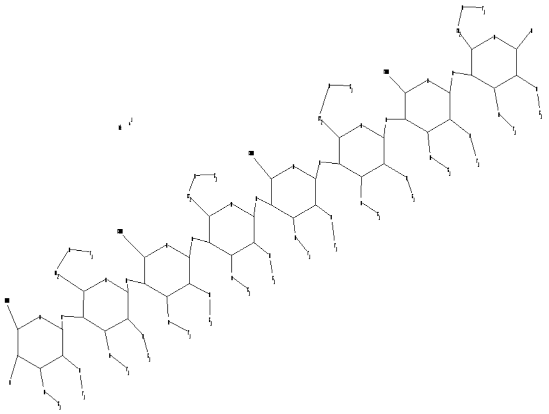

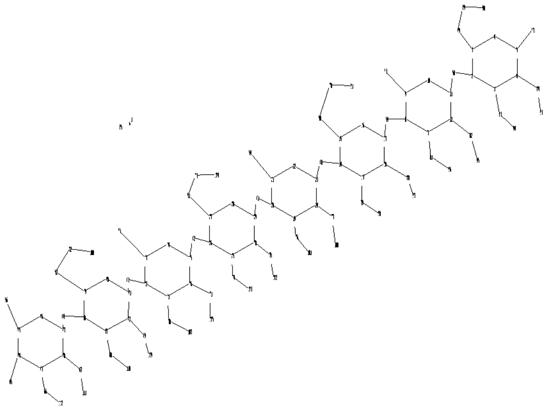

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chain nodes :
49  50  51  52  53  54  55  56  57  58  59  60  61  62  63  64  65  66  67  68  69
70  71  72  73  74  75  76  77  78  79  80  81  82  83  84  85  89  90  91  93  94
95  96  97
98  100  101  102  103  104  105  107  108  109  110  111  112
ring nodes :
1  2  3  4  5  6  7  8  9  10  11  12  13  14  15  16  17  18  19  20  21  22  23
24  25  26  27  28  29  30  31  32  33  34  35  36  37  38  39  40  41  42  43  44
45  46  47  48

chain bonds :
1-83  2-58  3-49  5-57  6-84  7-81  8-59  9-53  11-58  12-82  13-79  14-60  15-50
17-59  18-80  19-76  20-61  21-54  23-60  24-77  25-74  26-62  27-51  29-61  30-75
31-70  32-63
33-55  35-62  36-71  37-68  38-64  39-52  41-63  42-69  43-66  44-65  45-56  47-64
48-67  49-89
50-78  51-73  52-72  66-112  67-111  68-110  69-109  70-107  71-105  72-108  73-104
 74-103  75-102
76-101  77-100  78-91  79-98  80-97  81-96  82-95  83-94  84-93  89-90
ring bonds :
1-2  1-6  2-3  3-4  4-5  5-6  7-8  7-12  8-9  9-10  10-11  11-12  13-14  13-18
14-15
15-16  16-17  17-18  19-20  19-24  20-21  21-22  22-23  23-24  25-26  25-30  26-27
27-28  28-29
29-30  31-32  31-36  32-33  33-34  34-35  35-36  37-38  37-42  38-39  39-40  40-41
41-42  43-44
43-48  44-45  45-46  46-47  47-48
```

```
exact/norm bonds :
1-2  1-6  1-83  2-3  2-58  3-4  4-5  5-6  5-57  6-84  7-8  7-12  7-81  8-9  8-59
9-10  10-11  11-12  11-58  12-82  13-14  13-18  13-79  14-15  14-60  15-16  16-17
17-18  17-59  18-80
19-20  19-24  19-76  20-21  20-61  21-22  22-23  23-24  23-60  24-77  25-26  25-30
25-74  26-27
26-62  27-28  28-29  29-30  29-61  30-75  31-32  31-36  31-70  32-33  32-63  33-34
34-35  35-36
35-62  36-71  37-38  37-42  37-68  38-39  38-64  39-40  40-41  41-42  41-63  42-69
43-44  43-48
43-66  44-45  44-65  45-46  46-47  47-48  47-64  48-67  66-112  67-111  68-110
69-109  70-107
71-105  72-108  73-104  74-103  75-102  76-101  77-100  78-91  79-98  80-97  81-96
82-95  83-94  84-93
89-90
exact bonds :
3-49  9-53  15-50  21-54  27-51  33-55  39-52  45-56  49-89  50-78  51-73  52-72



G1:SO3H,[*1]

Connectivity :
85:1 X maximum RC ring/chain
Match level :
1:Atom  2:Atom  3:Atom  4:Atom  5:Atom  6:Atom  7:Atom  8:Atom  9:Atom  10:Atom
11:Atom  12:Atom  13:Atom  14:Atom  15:Atom  16:Atom  17:Atom  18:Atom  19:Atom
20:Atom  21:Atom
22:Atom  23:Atom  24:Atom  25:Atom  26:Atom  27:Atom  28:Atom  29:Atom  30:Atom
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83:CLASS  84:CLASS
85:CLASS  89:CLASS  90:CLASS  91:CLASS  93:CLASS  94:CLASS  95:CLASS  96:CLASS
97:CLASS
98:CLASS  100:CLASS  101:CLASS  102:CLASS  103:CLASS  104:CLASS  105:CLASS
107:CLASS  108:CLASS  109:CLASS
110:CLASS  111:CLASS  112:CLASS
Generic attributes :
85:
Saturation             : Saturated
Number of Carbon Atoms : less than 7




L1      STRUCTURE UPLOADED

=> s l1
SAMPLE SEARCH INITIATED 11:05:12 FILE 'REGISTRY'
SAMPLE SCREEN SEARCH COMPLETED -      144 TO ITERATE

100.0% PROCESSED      144 ITERATIONS                             1 ANSWERS
```

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SEARCH TIME: 00.00.01

FULL FILE PROJECTIONS:  ONLINE  **COMPLETE**
                        BATCH   **COMPLETE**
PROJECTED ITERATIONS:         2161 TO     3599
PROJECTED ANSWERS:               1 TO       80

L2           1 SEA SSS SAM L1

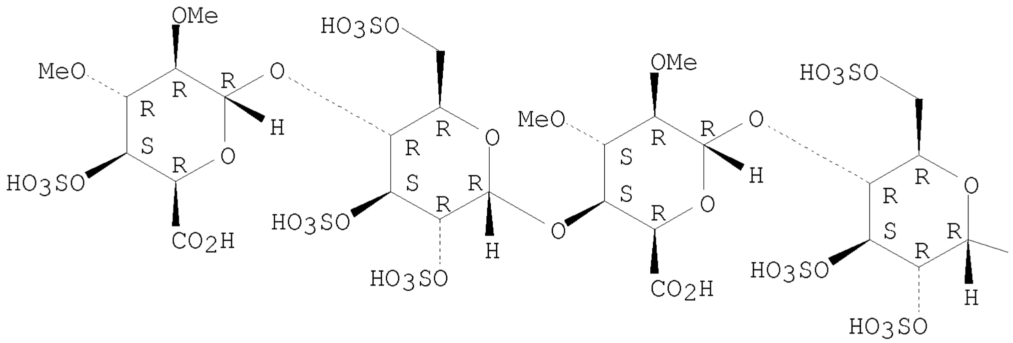
=> d l1 scan
L1 HAS NO ANSWERS


=> d l2 scan

L2   1 ANSWERS   REGISTRY  COPYRIGHT 2010 ACS on STN
IN   α-D-Glucopyranoside, methyl O-2,3-di-O-methyl-4-O-sulfo-α-L-
     idopyranuronosyl-(1→4)-[O-2,3,6-tri-O-sulfo-α-D-
     glucopyranosyl-(1→4)-O-2,3-di-O-methyl-α-L-idopyranuronosyl-
     (1→4)]5-, tris(hydrogen sulfate) (9CI)
MF   C85 H136 O124 S19
CI   COM

Absolute stereochemistry.  Rotation (+).

                                                                 PAGE 1-A
```



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                                                                 PAGE 1-B
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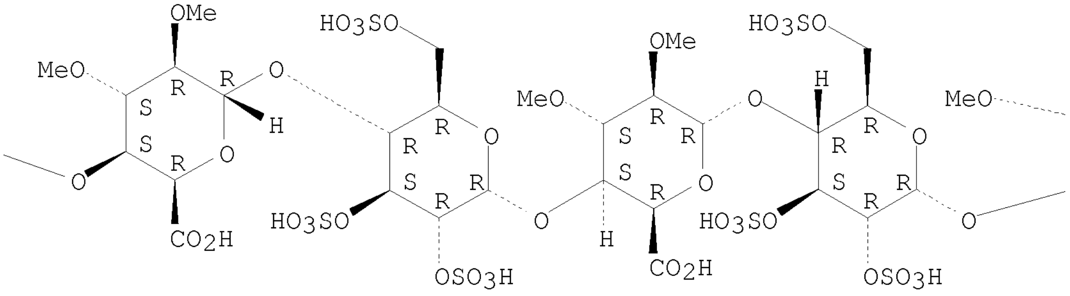
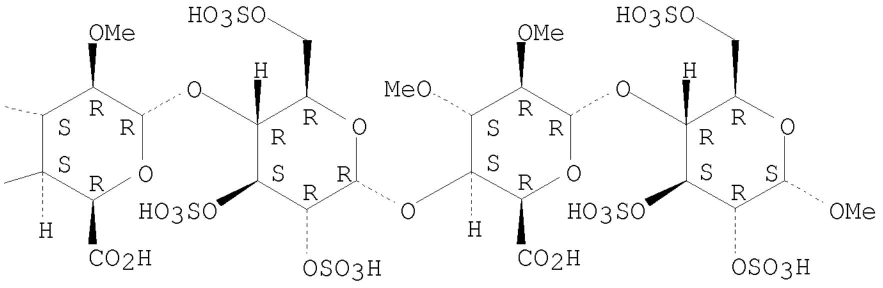


PAGE 1-C



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**PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT**


ALL ANSWERS HAVE BEEN SCANNED


=> s l1 sss full
FULL SEARCH INITIATED 11:05:33 FILE 'REGISTRY'
FULL SCREEN SEARCH COMPLETED -     2853 TO ITERATE

100.0% PROCESSED     2853 ITERATIONS                            18 ANSWERS
SEARCH TIME: 00.00.01

L3           18 SEA SSS FUL L1

=> file hcaplus
COST IN U.S. DOLLARS                             SINCE FILE      TOTAL
                                                      ENTRY    SESSION
FULL ESTIMATED COST                                  192.03     192.25

FILE 'HCAPLUS' ENTERED AT 11:05:38 ON 16 APR 2010
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FILE COVERS 1907 - 16 Apr 2010  VOL 152 ISS 17
FILE LAST UPDATED: 15 Apr 2010  (20100415/ED)
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REVISED CLASS FIELDS (/NCL) LAST RELOADED:  Feb 2010
USPTO MANUAL OF CLASSIFICATIONS THESAURUS ISSUE DATE:  Feb 2010

HCAplus now includes complete International Patent Classification (IPC)
reclassification data for the first quarter of 2010.

CAS Information Use Policies apply and are available at:

http://www.cas.org/legal/infopolicy.html

This file contains CAS Registry Numbers for easy and accurate
substance identification.

=> s l3
L4          6 L3

=> d l4 1-6 ti abs bib hitstr

L4   ANSWER 1 OF 6  HCAPLUS  COPYRIGHT 2010 ACS on STN
TI   "Design and synthesis of heparin mimetics able to inhibit thrombin". Part
     2 assessment through chemical synthesis of the size of the heparin
     sequence involved in thrombin inhibition
AB   Deca- to eicosasaccharides having the generic structure methyl(sodium
     2,3-di-O-methyl-4-O-sodium sulfonato-α-L-idopyranosyluronate)-
     (1→4)-[(2,3,6-tri-O-sodium sulfonato-α-D-glucopyranosyl)-
     (1→4)-(sodium 2,3-di-O-methyl-α-L-idopyranosyluronate)-
     (1→4)]n-2,3,6-tri-O-sodium sulfonato-α-D-glucopyranoside have
     been synthesized from a single disaccharide precursor.  All of them bind
     to and activate antithrombin.  When n ≤ 6 only Factor Xa inhibition
     is observed, whereas when n > 6 Factor Xa and thrombin are both inhibited in
     the presence of antithrombin.  These results indicate that, in heparin,
     the sequence involved in antithrombin-catalyzed thrombin inhibition is a
     pentadecaor a hexadecasaccharide.
AN   1999:492122  HCAPLUS <<LOGINID::20100416>>
DN   131:257771
TI   "Design and synthesis of heparin mimetics able to inhibit thrombin". Part
     2 assessment through chemical synthesis of the size of the heparin
     sequence involved in thrombin inhibition
AU   Duchaussoy, Philippe; Jaurand, Guy; Driguez, Pierre-A.; Lederman, Isidore;
     Ceccato, Marie-L.; Gourvenec, Francoise; Strassel, Jean-M.; Sizun,
     Philippe; Petitou, Maurice; Herbert, Jean-M.
CS   Sanofi Recherche, Haemobiology Research Department, Toulouse, F-31036, Fr.
SO   Carbohydrate Research (1999), 317(1-4), 85-99
     CODEN: CRBRAT; ISSN: 0008-6215
PB   Elsevier Science Ltd.
DT   Journal
LA   English
IT   200712-79-4P   200712-80-7P
     RL: BAC (Biological activity or effector, except adverse); BSU (Biological
     study, unclassified); SPN (Synthetic preparation); BIOL (Biological
     study); PREP (Preparation)
        (preparation of oligosaccharides heparin mimetics as antithrombins)
RN   200712-79-4  HCAPLUS
CN   α-D-Glucopyranoside, methyl O-2,3-di-O-methyl-4-O-sulfo-α-L-
     idopyranuronosyl-(1→4)-O-2,3,6-tri-O-sulfo-α-D-glucopyranosyl-
     (1→4)-O-2,3-di-O-methyl-α-L-idopyranuronosyl-(1→4)-O-
     2,3,6-tri-O-sulfo-α-D-glucopyranosyl-(1→4)-O-2,3-di-O-methyl-
     α-L-idopyranuronosyl-(1→4)-O-2,3,6-tri-O-sulfo-α-D-
     glucopyranosyl-(1→4)-O-2,3-di-O-methyl-α-L-idopyranuronosyl-
     (1→4)-O-2,3,6-tri-O-sulfo-α-D-glucopyranosyl-(1→4)-O-
     2,3-di-O-methyl-α-L-idopyranuronosyl-(1→4)-, tris(hydrogen
```
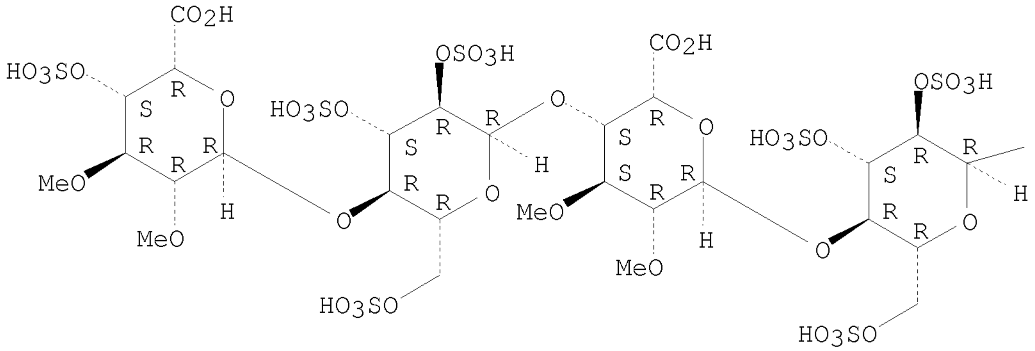

sulfate), eicosasodium salt (9CI) (CA INDEX NAME)

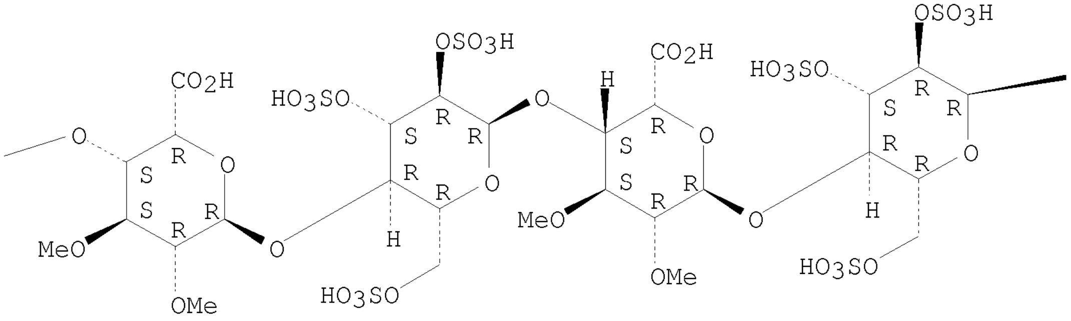
Absolute stereochemistry. Rotation (+).

PAGE 1-A



●21 Na

PAGE 1-B



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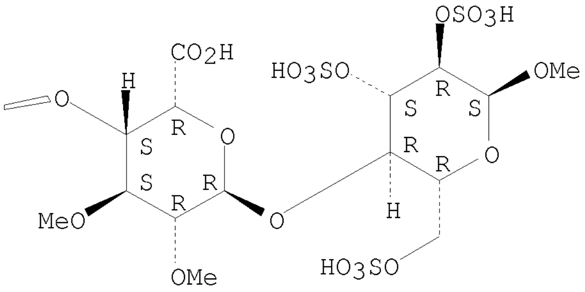
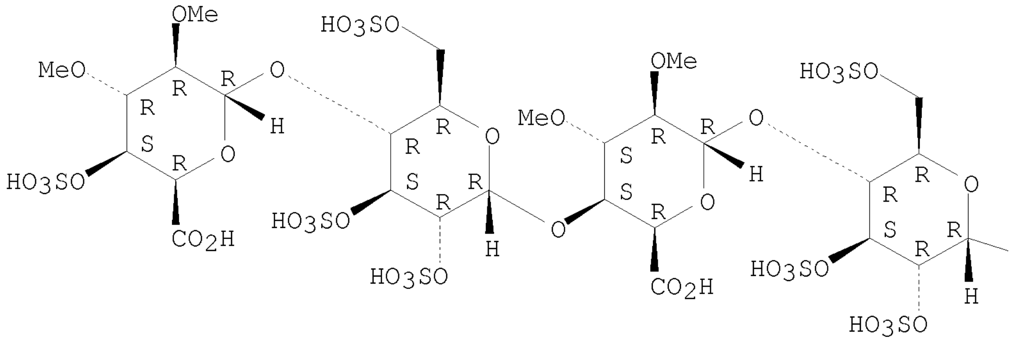


RN 200712-80-7 HCAPLUS

CN α-D-Glucopyranoside, methyl O-2,3-di-O-methyl-4-O-sulfo-α-L-idopyranuronosyl-(1→4)-[O-2,3,6-tri-O-sulfo-α-D-glucopyranosyl-(1→4)-O-2,3-di-O-methyl-α-L-idopyranuronosyl-(1→4)]5-, tris(hydrogen sulfate), pentacosasodium salt (9CI) (CA INDEX NAME)

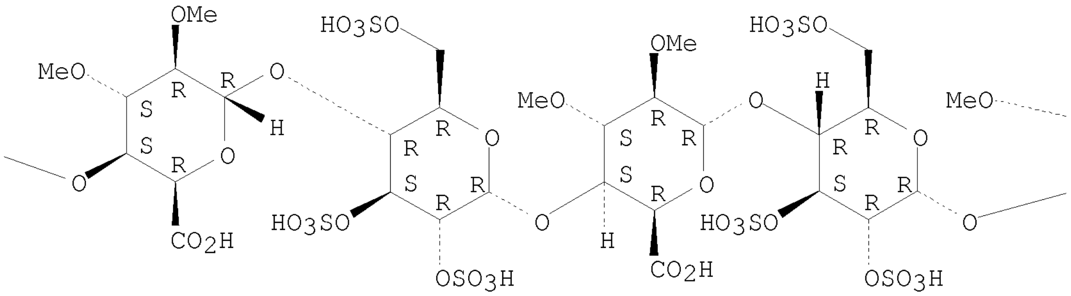
Absolute stereochemistry. Rotation (+).

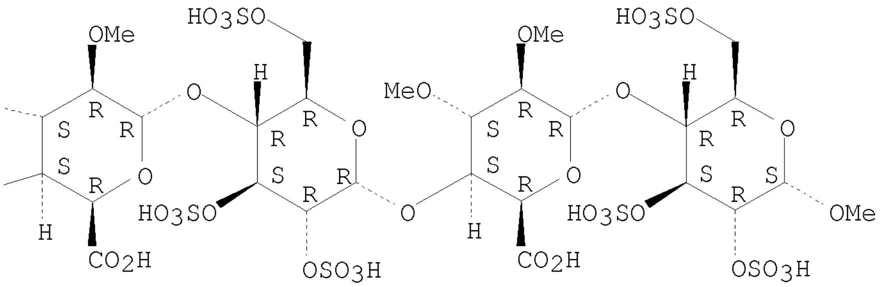
PAGE 1-A



● 25 Na

PAGE 1-B





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OSC.G   18    THERE ARE 18 CAPLUS RECORDS THAT CITE THIS RECORD (19 CITINGS)
RE.CNT  18    THERE ARE 18 CITED REFERENCES AVAILABLE FOR THIS RECORD
              ALL CITATIONS AVAILABLE IN THE RE FORMAT

L4   ANSWER 2 OF 6  HCAPLUS  COPYRIGHT 2010 ACS on STN
TI   Synthesis of thrombin-inhibiting heparin mimetics without side effects
AB   Unwanted side effects of pharmacol. active compds. can usually be
     eliminated by structural modifications.  To obtain more potent and
     well-tolerated antithrombotic drugs, we wished to synthesize heparin
     mimetics able to inhibit thrombin, i.e., longer oligosaccharides.  Like
     thrombin inhibition, undesired interactions are directly correlated to the
     charge and the size of the mols., so we had to design structures that were
     able to discriminate between thrombin and other proteins, particularly
     PF4.  Here we describe the use of multistep converging synthesis to obtain
     sulfated oligosaccharides that meet these requirements.
AN   1999:255704  HCAPLUS <<LOGINID::20100416>>
DN   130:296937
TI   Synthesis of thrombin-inhibiting heparin mimetics without side effects
AU   Petitou, Maurice; Herault, Jean-Pascal; Bernat, Andre; Driguez,
     Pierre-Alexandre; Duchaussoy, Philippe; Lormeau, Jean-Claude; Herbert,
     Jean-Marc
CS   Sanofi Recherche, Toulouse, 31036, Fr.
SO   Nature (London) (1999), 398(6726), 417-422
     CODEN: NATUAS; ISSN: 0028-0836
PB   Macmillan Magazines
DT   Journal
LA   English
IT   191418-11-8P   191418-12-9P
     RL: BAC (Biological activity or effector, except adverse); BSU (Biological
     study, unclassified); SPN (Synthetic preparation); BIOL (Biological
     study); PREP (Preparation)
        (synthesis of thrombin-inhibiting heparin mimetics without side
        effects)
RN   191418-11-8  HCAPLUS
CN   α-D-Glucopyranoside, methyl O-2,3-di-O-methyl-4-O-sulfo-α-L-
     idopyranuronosyl-(1→4)-O-2,3,6-tri-O-sulfo-α-D-glucopyranosyl-
     (1→4)-O-2,3-di-O-methyl-α-L-idopyranuronosyl-(1→4)-O-
     2,3,6-tri-O-sulfo-α-D-glucopyranosyl-(1→4)-O-2,3-di-O-methyl-
     α-L-idopyranuronosyl-(1→4)-O-2,3,6-tri-O-sulfo-α-D-
     glucopyranosyl-(1→4)-O-2,3-di-O-methyl-α-L-idopyranuronosyl-
     (1→4)-O-2,3,6-tri-O-sulfo-α-D-glucopyranosyl-(1→4)-O-
     2,3-di-O-methyl-α-L-idopyranuronosyl-(1→4)-, tris(hydrogen
     sulfate) (9CI)  (CA INDEX NAME)
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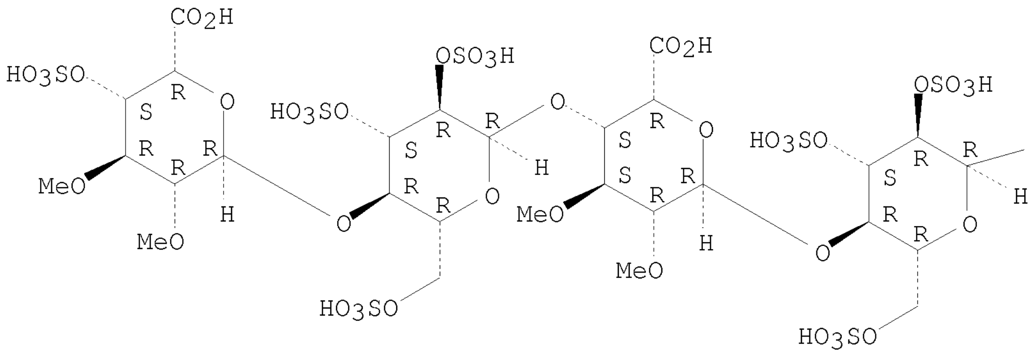
Absolute stereochemistry. Rotation (+).

PAGE 1-A



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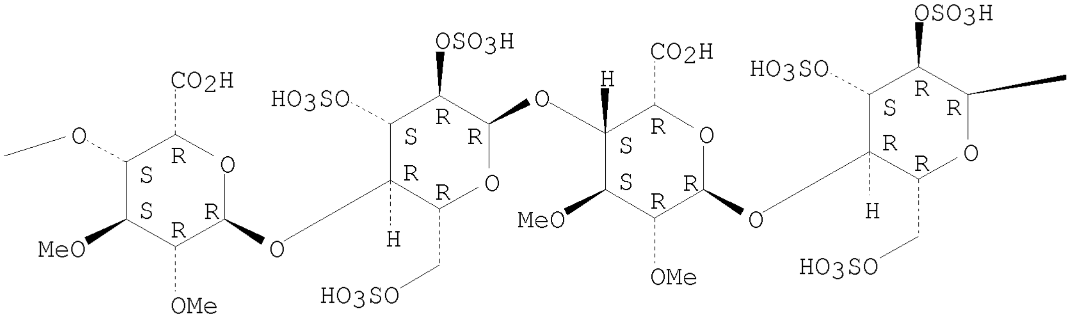

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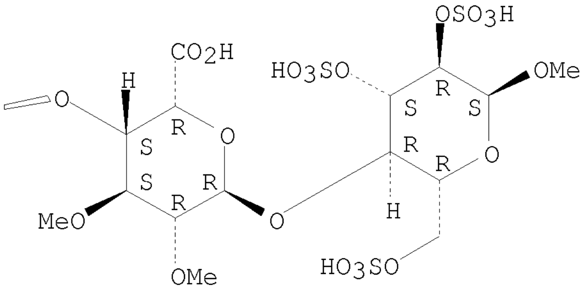


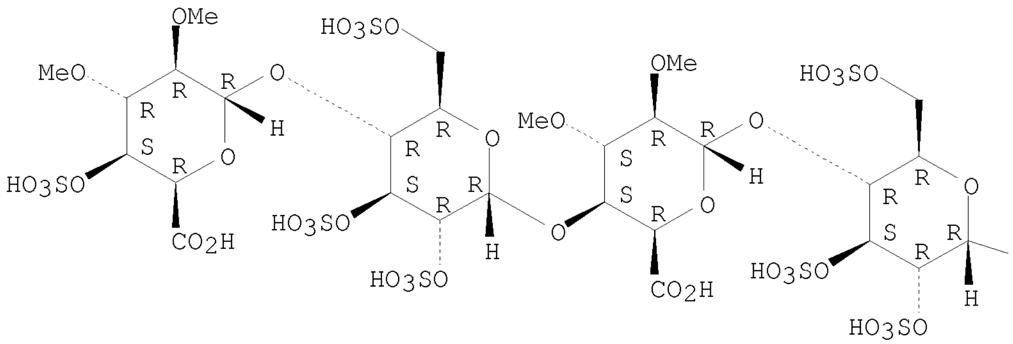
RN   191418-12-9 HCAPLUS

CN   α-D-Glucopyranoside, methyl O-2,3-di-O-methyl-4-O-sulfo-α-L-idopyranuronosyl-(1→4)-[O-2,3,6-tri-O-sulfo-α-D-glucopyranosyl-(1→4)-O-2,3-di-O-methyl-α-L-idopyranuronosyl-

(1→4)]5-, tris(hydrogen sulfate) (9CI) (CA INDEX NAME)

Absolute stereochemistry. Rotation (+).

PAGE 1-A



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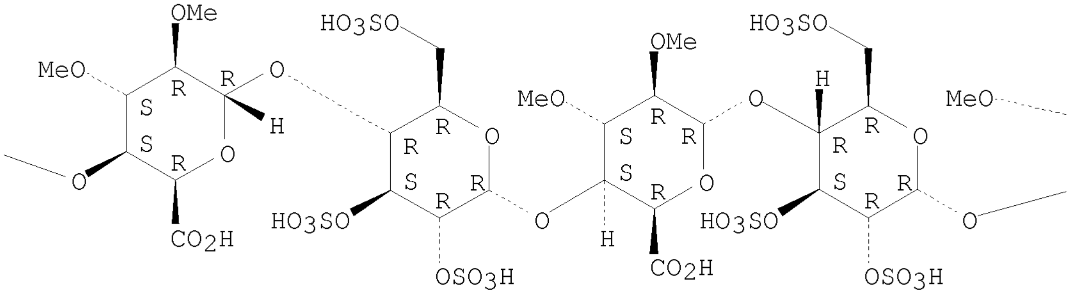
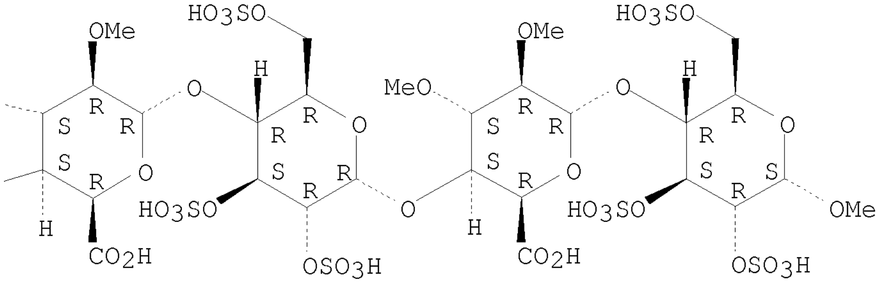


PAGE 1-C



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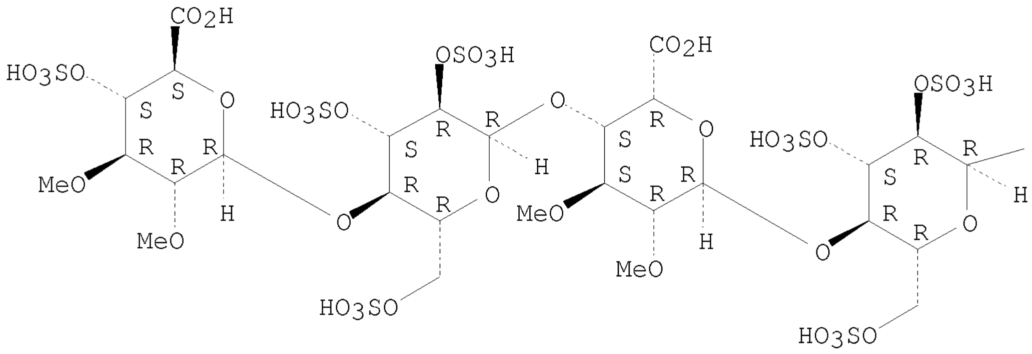
OSC.G   196   THERE ARE 196 CAPLUS RECORDS THAT CITE THIS RECORD (196 CITINGS)
RE.CNT  27    THERE ARE 27 CITED REFERENCES AVAILABLE FOR THIS RECORD
              ALL CITATIONS AVAILABLE IN THE RE FORMAT

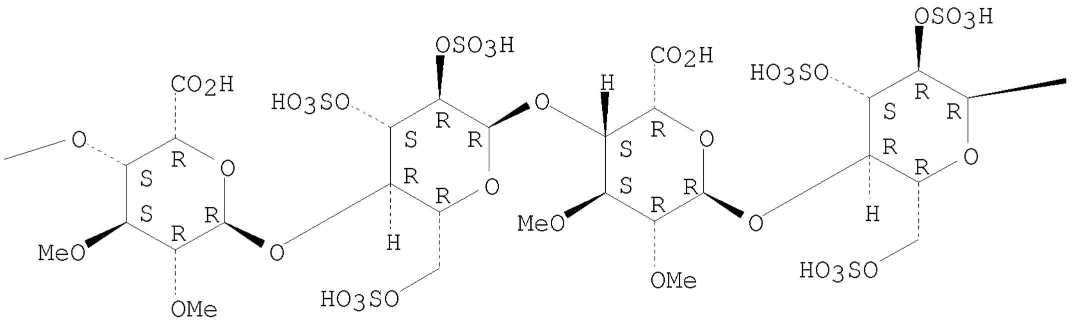
L4   ANSWER 3 OF 6  HCAPLUS  COPYRIGHT 2010 ACS on STN
TI   First synthetic carbohydrates with the full anticoagulant properties of
     heparin
AB   Using the imidate glycosylation procedure, the authors have synthesized
     oligosaccharide mols. displaying the dual (anti-factor Xa and
     anti-thrombin) activity of heparin mediated by AT III.  "Non-glycosamino"
     glycan heparin analogs, where N-sulfonato substituents were replaced by
     O-sulfonato groups and -OH groups were alkylated, which preserve the
     specific binding to AT III, yet simplify synthesis, were used.  Repetitive
     block synthesis, using disaccharide synthons, gave hexa- to
     eicosa-saccharides, which were tested for biol. activity in thrombin or
     factor Xa inhibition.  Regarding the long standing question about the min.
     size of heparin fragments able to catalyze thrombin inhibition, the
     present data restrict the choice to a pentadeca- or hexadeca-saccharide.
AN   1998:794792  HCAPLUS <<LOGINID::20100416>>
DN   130:110506
TI   First synthetic carbohydrates with the full anticoagulant properties of
     heparin
AU   Petitou, Maurice; Duchaussoy, Philippe; Driguez, Pierre-A.; Jaurand, Guy;
     Herault, Jean-P.; Lormeau, Jean-C.; Van Boeckel, Constant A. A.; Herbert,
     Jean-M.
CS   Haemobiology Research Department, Sanofi Recherche, Toulouse, F-31036, Fr.
SO   Angewandte Chemie, International Edition (1998), 37(21), 3009-3014
     CODEN: ACIEF5; ISSN: 1433-7851
PB   Wiley-VCH Verlag GmbH
DT   Journal
LA   English
IT   219596-95-9P   219596-98-2P
     RL: BAC (Biological activity or effector, except adverse); BSU (Biological
     study, unclassified); SPN (Synthetic preparation); BIOL (Biological
     study); PREP (Preparation)
        (synthesis and testing of as synthetic carbohydrates with the
        anticoagulant properties of heparin)
RN   219596-95-9  HCAPLUS
CN   α-D-Glucopyranoside, methyl O-2,3-di-O-methyl-4-O-sulfo-β-D-
     glucopyranuronosyl-(1→4)-O-2,3,6-tri-O-sulfo-α-D-
     glucopyranosyl-(1→4)-O-2,3-di-O-methyl-α-L-idopyranuronosyl-
     (1→4)-O-2,3,6-tri-O-sulfo-α-D-glucopyranosyl-(1→4)-O-
     2,3-di-O-methyl-α-L-idopyranuronosyl-(1→4)-O-2,3,6-tri-O-
     sulfo-α-D-glucopyranosyl-(1→4)-O-2,3-di-O-methyl-α-L-
     idopyranuronosyl-(1→4)-O-2,3,6-tri-O-sulfo-α-D-glucopyranosyl-
     (1→4)-O-2,3-di-O-methyl-α-L-idopyranuronosyl-(1→4)-,
     tris(hydrogen sulfate) (9CI)  (CA INDEX NAME)

Absolute stereochemistry.
```

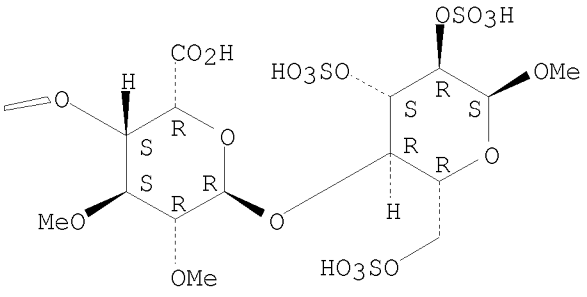
PAGE 1-A



PAGE 1-B



PAGE 1-C

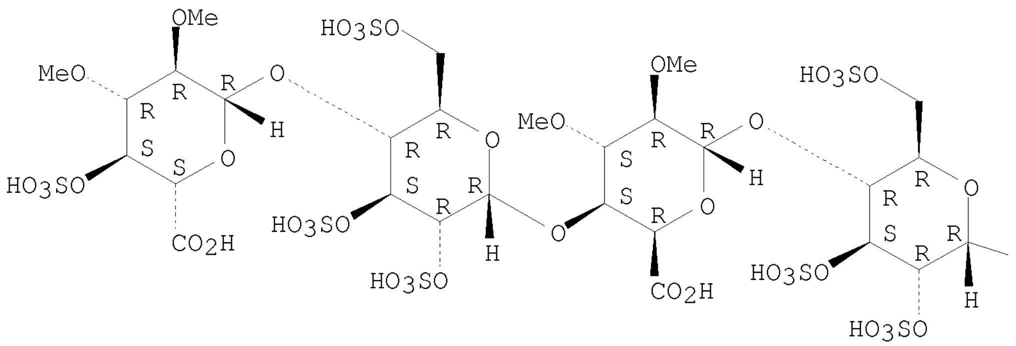


RN 219596-98-2 HCAPLUS

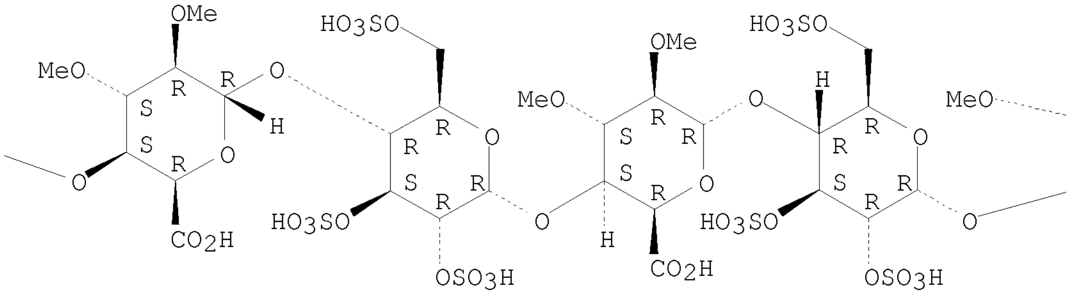
CN α-D-Glucopyranoside, methyl O-2,3-di-O-methyl-4-O-sulfo-β-D-glucopyranuronosyl-(1→4)-[O-2,3,6-tri-O-sulfo-α-D-glucopyranosyl-(1→4)-O-2,3-di-O-methyl-α-L-idopyranuronosyl-(1→4)]5-, tris(hydrogen sulfate) (9CI) (CA INDEX NAME)

Absolute stereochemistry.

PAGE 1-A



PAGE 1-B



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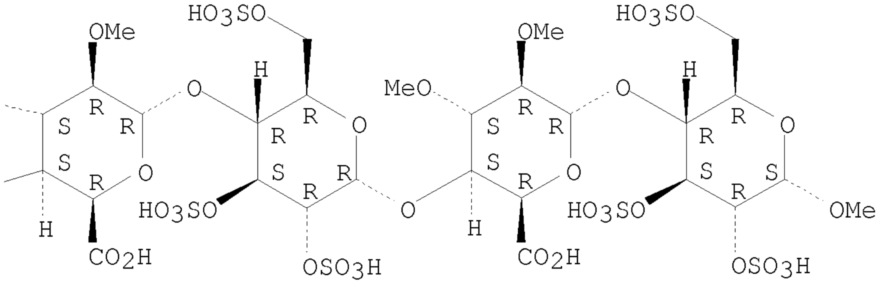

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OSC.G   46    THERE ARE 46 CAPLUS RECORDS THAT CITE THIS RECORD (47 CITINGS)
RE.CNT  29    THERE ARE 29 CITED REFERENCES AVAILABLE FOR THIS RECORD
```

```
                ALL CITATIONS AVAILABLE IN THE RE FORMAT

L4   ANSWER 4 OF 6  HCAPLUS  COPYRIGHT 2010 ACS on STN
TI   Preparation of synthetic polysaccharides for use in pharmaceutical
     compositions
AB   Polysaccharides (d.p. 8-24) comprising concatenations of disaccharides
     consisting of a uronic acid and a hexose (all OH groups being etherified
     with C1-6 alkyl groups or esterified with sulfonic acids) and their salts
     are prepared for use in pharmaceuticals (no data).  The preparation of
     polysaccharides with d.p. 2-10 and their intermediates is described.
AN   1998:15784  HCAPLUS <<LOGINID::20100416>>
DN   128:90258
OREF 128:17615a,17618a
TI   Preparation of synthetic polysaccharides for use in pharmaceutical
     compositions
IN   Duchaussoy, Philippe; Herbert, Jean-Marc; Jaurand, Guy; Petitou, Maurice;
     Van Boeckel, Constant
PA   Sanofi, Fr.; Akzo Nobel N.V.
SO   PCT Int. Appl., 70 pp.
     CODEN: PIXXD2
DT   Patent
LA   French
FAN.CNT 1
     PATENT NO.          KIND   DATE       APPLICATION NO.        DATE
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PI   WO 9747659           A1    19971218   WO 1997-FR1048         19970611
         W:  AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE,
             DK, EE, ES, FI, GB, GE, GH, HU, IL, IS, JP, KE, KG, KP, KR, KZ,
             LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL,
             PT, RO, RU, SD, SE, SG, SI, SK, TJ, TM, TR, TT, UA, UG, US, UZ,
             VN, YU, ZW
         RW: GH, KE, LS, MW, SD, SZ, UG, ZW, AT, BE, CH, DE, DK, ES, FI, FR,
             GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA,
             GN, ML, MR, NE, SN, TD, TG
     FR 2749849           A1    19971219   FR 1996-7457           19960614
     FR 2749849           B1    19980904
     CA 2258146           A1    19971218   CA 1997-2258146        19970611
     CA 2258146           C     20031007
     AU 9732667           A     19980107   AU 1997-32667          19970611
     EP 904299            A1    19990331   EP 1997-928337         19970611
     EP 904299            B1    20010829
         R:  AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT,
             IE, FI
     JP 11513061          T     19991109   JP 1998-501307         19970611
     JP 3501813           B2    20040302
     BR 9709722           A     20000125   BR 1997-9722           19970611
     AT 204883            T     20010915   AT 1997-928337         19970611
     ES 2163171           T3    20020116   ES 1997-928337         19970611
     PT 904299            E     20020228   PT 1997-928337         19970611
     MX 9810514           A     20000630   MX 1998-10514          19981210
     NO 9805831           A     19990211   NO 1998-5831           19981211
     NO 319037            B1    20050606
     US 20040068108       A1    20040408   US 2003-677894         20031002
PRAI FR 1996-7457         A     19960614
     WO 1997-FR1048       W     19970611
     US 1998-202241       B1    19981210
     US 2000-686373       B1    20001011
ASSIGNMENT HISTORY FOR US PATENT AVAILABLE IN LSUS DISPLAY FORMAT
OS   MARPAT 128:90258
IT   200712-79-4P   200712-80-7P   200712-81-8P
     200712-83-0P   200712-84-1P   200712-88-5P
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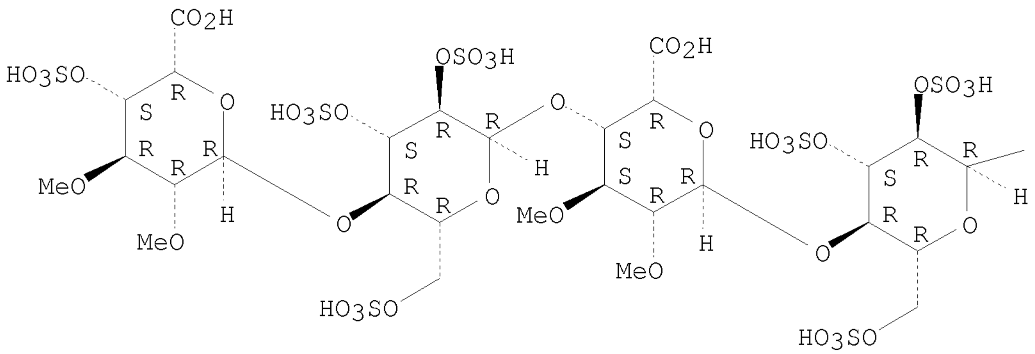
     200712-89-6P   200712-90-9P
     RL: IMF (Industrial manufacture); PREP (Preparation)
        (preparation of synthetic polysaccharides for use in pharmaceutical compns.)
RN   200712-79-4 HCAPLUS
CN   α-D-Glucopyranoside, methyl O-2,3-di-O-methyl-4-O-sulfo-α-L-
     idopyranuronosyl-(1→4)-O-2,3,6-tri-O-sulfo-α-D-glucopyranosyl-
     (1→4)-O-2,3-di-O-methyl-α-L-idopyranuronosyl-(1→4)-O-
     2,3,6-tri-O-sulfo-α-D-glucopyranosyl-(1→4)-O-2,3-di-O-methyl-
     α-L-idopyranuronosyl-(1→4)-O-2,3,6-tri-O-sulfo-α-D-
     glucopyranosyl-(1→4)-O-2,3-di-O-methyl-α-L-idopyranuronosyl-
     (1→4)-O-2,3,6-tri-O-sulfo-α-D-glucopyranosyl-(1→4)-O-
     2,3-di-O-methyl-α-L-idopyranuronosyl-(1→4)-, tris(hydrogen
     sulfate), eicosasodium salt (9CI) (CA INDEX NAME)

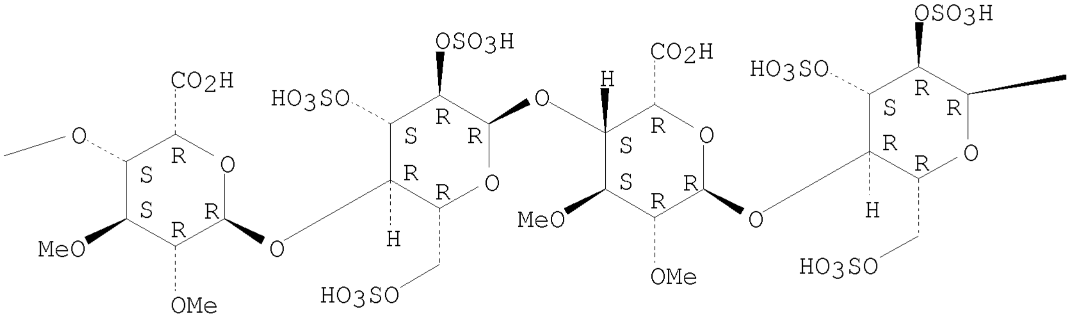
Absolute stereochemistry. Rotation (+).

PAGE 1-A



● 21 Na

PAGE 1-B



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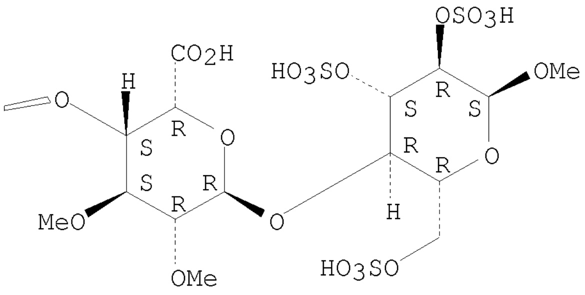
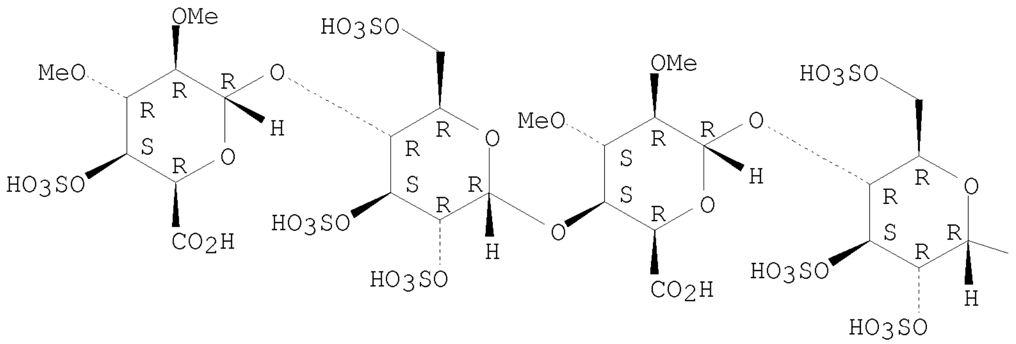


RN 200712-80-7 HCAPLUS

CN α-D-Glucopyranoside, methyl O-2,3-di-O-methyl-4-O-sulfo-α-L-idopyranuronosyl-(1→4)-[O-2,3,6-tri-O-sulfo-α-D-glucopyranosyl-(1→4)-O-2,3-di-O-methyl-α-L-idopyranuronosyl-(1→4)]5-, tris(hydrogen sulfate), pentacosasodium salt (9CI) (CA INDEX NAME)

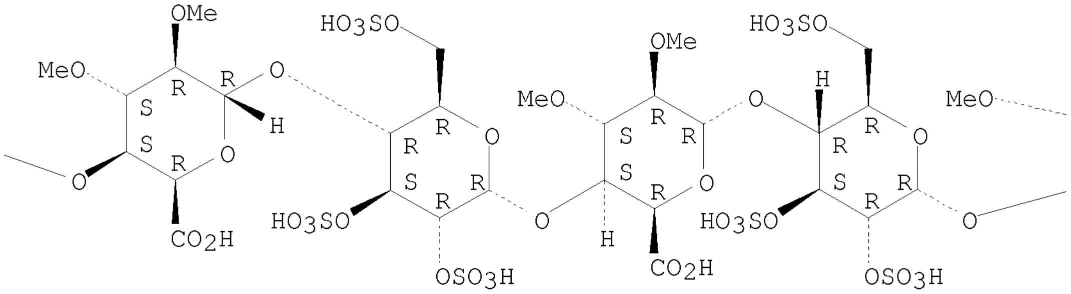
Absolute stereochemistry. Rotation (+).

PAGE 1-A



●25 Na

PAGE 1-B



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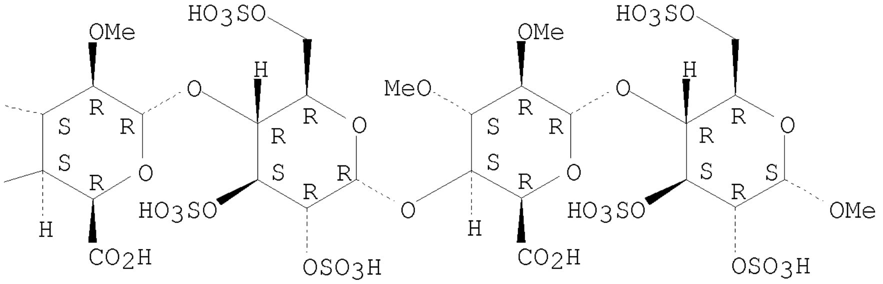
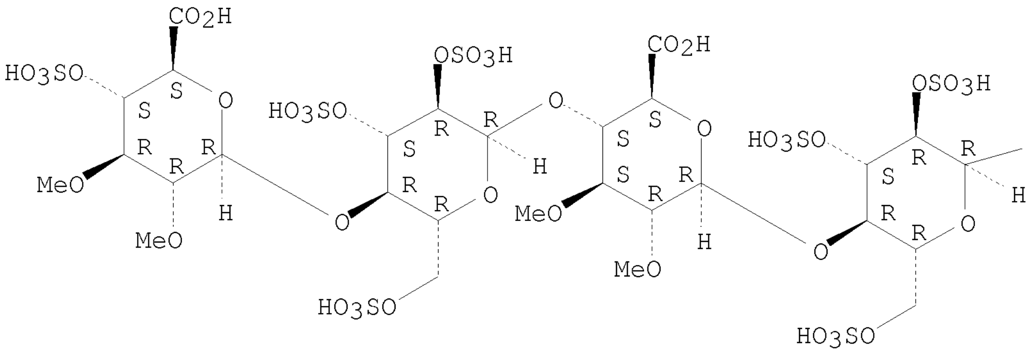


RN 200712-81-8 HCAPLUS

CN α-D-Glucopyranoside, methyl O-2,3-di-O-methyl-4-O-sulfo-β-D-glucopyranuronosyl-(1→4)-O-2,3,6-tri-O-sulfo-α-D-glucopyranosyl-(1→4)-O-2,3-di-O-methyl-β-D-glucopyranuronosyl-(1→4)-O-2,3,6-tri-O-sulfo-α-D-glucopyranosyl-(1→4)-O-2,3-di-O-methyl-β-D-glucopyranuronosyl-(1→4)-O-2,3,6-tri-O-sulfo-α-D-glucopyranosyl-(1→4)-O-2,3-di-O-methyl-β-D-glucopyranuronosyl-(1→4)-O-2,3,6-tri-O-sulfo-α-D-glucopyranosyl-(1→4)-O-2,3-di-O-methyl-β-D-glucopyranuronosyl-(1→4)-, tris(hydrogen sulfate), heneicosasodium salt (9CI) (CA INDEX NAME)

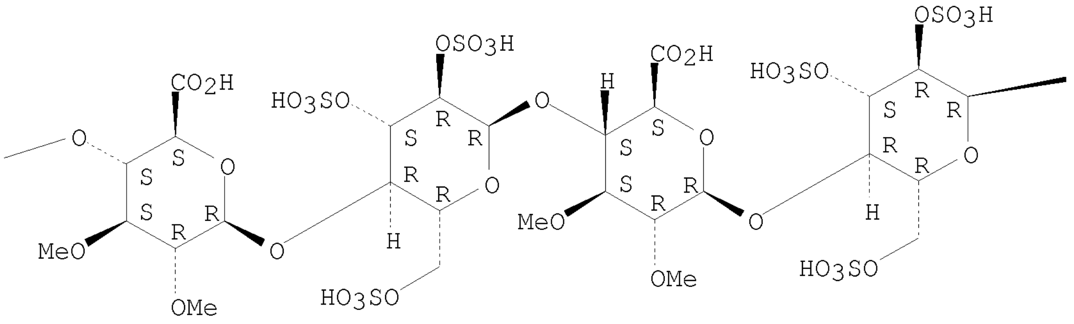
Absolute stereochemistry. Rotation (+).

PAGE 1-A



● 21 Na

PAGE 1-B



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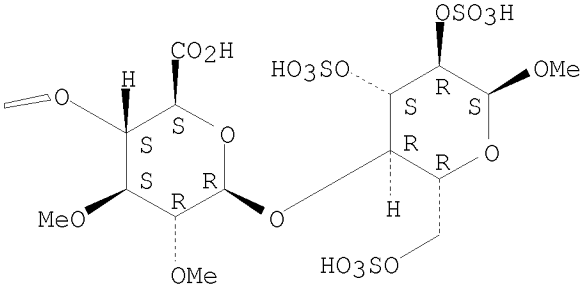


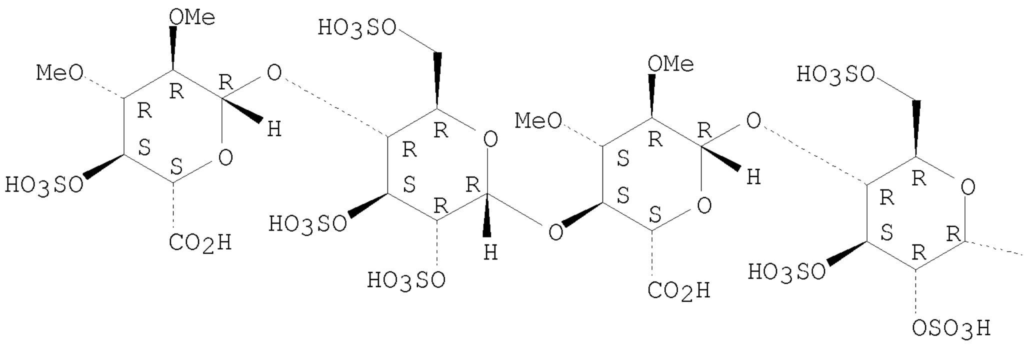
RN 200712-83-0 HCAPLUS

CN α-D-Glucopyranoside, methyl O-2,3-di-O-methyl-4-O-sulfo-β-D-glucopyranuronosyl-(1→4)-O-2,3,6-tri-O-sulfo-α-D-

glucopyranosyl-(1→4)-O-2,3-di-O-methyl-β-D-glucopyranuronosyl-
(1→4)-O-2,3,6-tri-O-sulfo-α-D-glucopyranosyl-(1→4)-O-
2,3-di-O-methyl-β-D-glucopyranuronosyl-(1→4)-O-2,3,6-tri-O-
sulfo-α-D-glucopyranosyl-(1→4)-O-2,3-di-O-methyl-β-D-
glucopyranuronosyl-(1→4)-, tris(hydrogen sulfate), heptadecasodium
salt (9CI) (CA INDEX NAME)

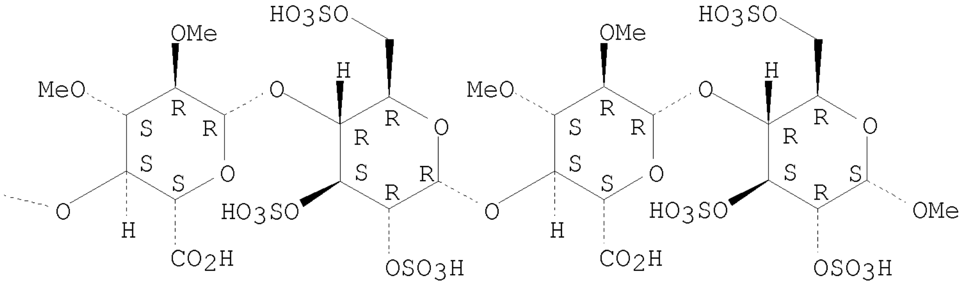
Absolute stereochemistry. Rotation (+).

PAGE 1-A



●17 Na

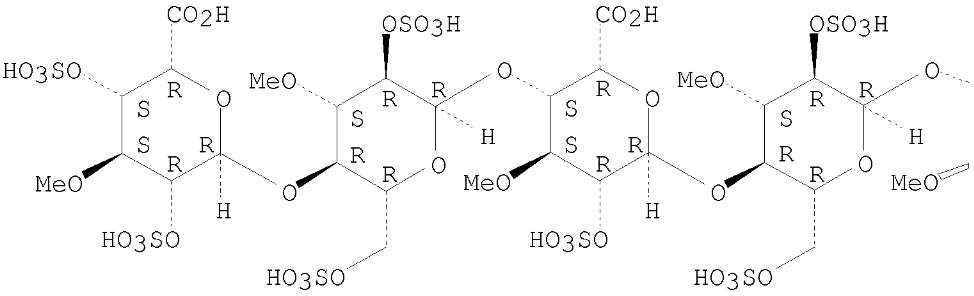
PAGE 1-B



RN 200712-84-1 HCAPLUS
CN α-D-Glucopyranoside, methyl O-3-O-methyl-2,4-di-O-sulfo-α-L-
idopyranuronosyl-(1→4)-O-3-O-methyl-2,6-di-O-sulfo-α-D-
glucopyranosyl-(1→4)-O-3-O-methyl-2-O-sulfo-α-L-
idopyranuronosyl-(1→4)-O-3-O-methyl-2,6-di-O-sulfo-α-D-
glucopyranosyl-(1→4)-O-3-O-methyl-2-O-sulfo-α-L-
idopyranuronosyl-(1→4)-O-3-O-methyl-2,6-di-O-sulfo-α-D-
glucopyranosyl-(1→4)-O-3-O-methyl-2-O-sulfo-α-L-
idopyranuronosyl-(1→4)-O-3-O-methyl-2,6-di-O-sulfo-α-D-
glucopyranosyl-(1→4)-O-3-O-methyl-2-O-sulfo-α-L-
idopyranuronosyl-(1→4)-3-O-methyl-, bis(hydrogen sulfate),
eicosasodium salt (9CI) (CA INDEX NAME)

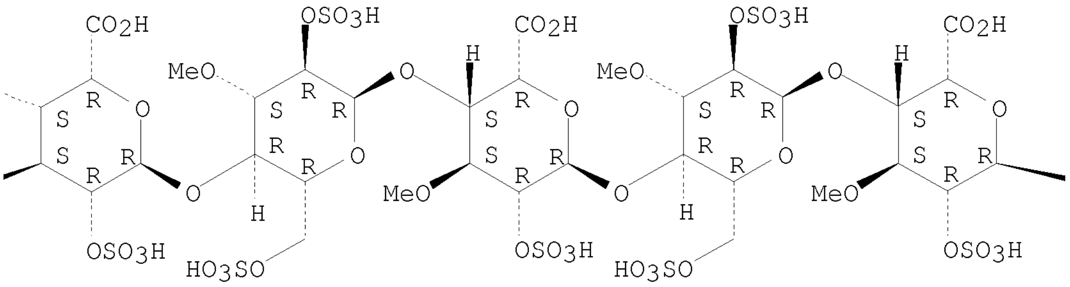
Absolute stereochemistry. Rotation (+).

PAGE 1-A



●21 Na

PAGE 1-B



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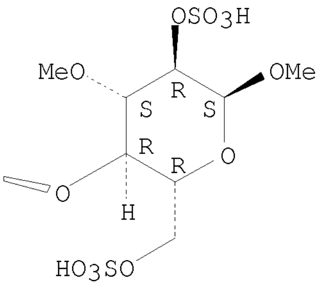


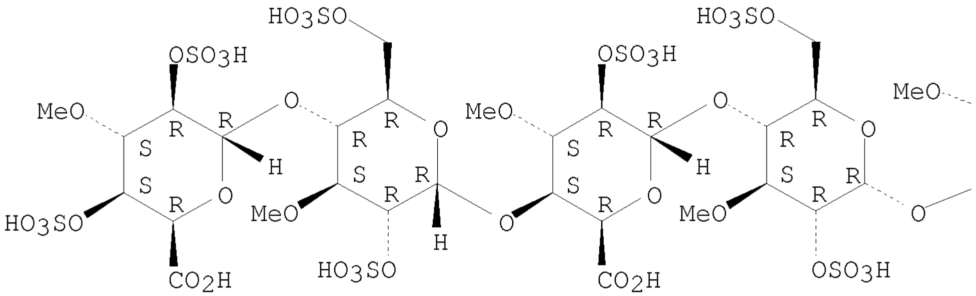
RN 200712-88-5 HCAPLUS

CN α-D-Glucopyranoside, methyl O-3-O-methyl-2,4-di-O-sulfo-α-L-idopyranuronosyl-(1→4)-O-3-O-methyl-2,6-di-O-sulfo-α-D-glucopyranosyl-(1→4)-O-3-O-methyl-2-O-sulfo-α-L-idopyranuronosyl-(1→4)-O-3-O-methyl-2,6-di-O-sulfo-α-D-glucopyranosyl-(1→4)-O-3-O-methyl-2-O-sulfo-α-L-idopyranuronosyl-(1→4)-O-3-O-methyl-2,6-di-O-sulfo-α-D-

glucopyranosyl-(1→4)-O-3-O-methyl-2-O-sulfo-α-L-
idopyranuronosyl-(1→4)-3-O-methyl-, bis(hydrogen sulfate),
heptadecasodium salt (9CI) (CA INDEX NAME)

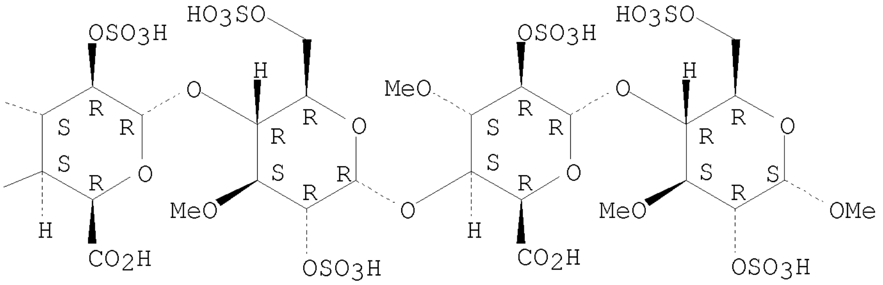
Absolute stereochemistry.

PAGE 1-A



● 17 Na

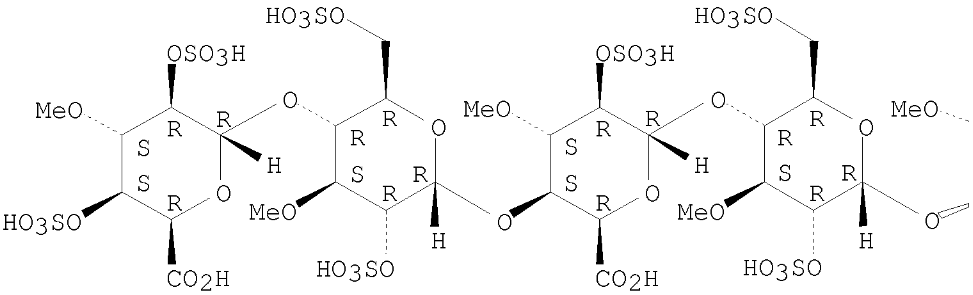
PAGE 1-B



RN   200712-89-6 HCAPLUS
CN   α-D-Glucopyranoside, methyl O-3-O-methyl-2,4-di-O-sulfo-α-L-
idopyranuronosyl-(1→4)-O-3-O-methyl-2,6-di-O-sulfo-α-D-
glucopyranosyl-(1→4)-O-3-O-methyl-2-O-sulfo-α-L-
idopyranuronosyl-(1→4)-O-3-O-methyl-2,6-di-O-sulfo-α-D-
glucopyranosyl-(1→4)-O-3-O-methyl-2-O-sulfo-α-L-
idopyranuronosyl-(1→4)-O-3-O-methyl-2,6-di-O-sulfo-α-D-
glucopyranosyl-(1→4)-O-3-O-methyl-2-O-sulfo-α-L-
idopyranuronosyl-(1→4)-O-3-O-methyl-2,6-di-O-sulfo-α-D-
glucopyranosyl-(1→4)-O-3-O-methyl-2-O-sulfo-α-L-
idopyranuronosyl-(1→4)-O-3-O-methyl-2,6-di-O-sulfo-α-D-
glucopyranosyl-(1→4)-O-3-O-methyl-2-O-sulfo-α-L-
idopyranuronosyl-(1→4)-3-O-methyl-, bis(hydrogen sulfate),
pentacosasodium salt (9CI) (CA INDEX NAME)

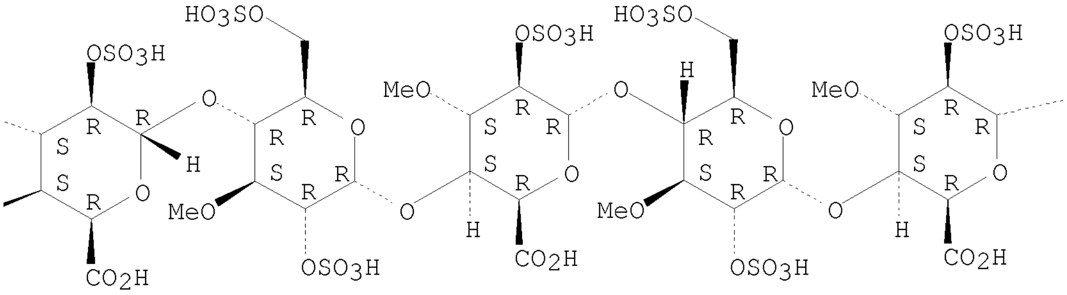
Absolute stereochemistry.

PAGE 1-A



●25 Na

PAGE 1-B



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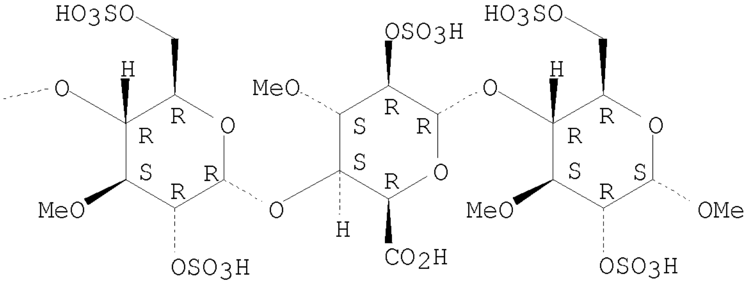


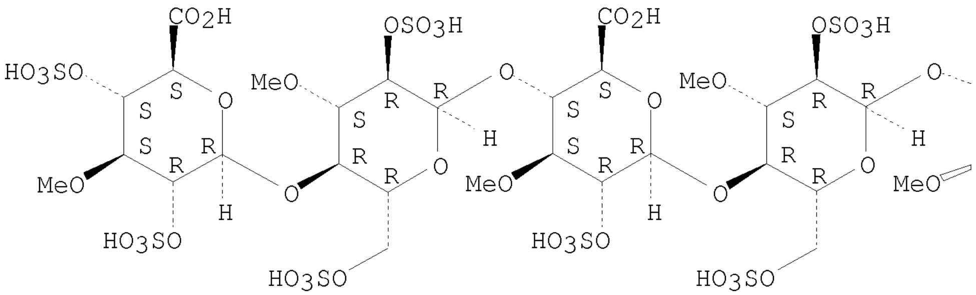
RN 200712-90-9 HCAPLUS

CN α-D-Glucopyranoside, methyl O-3-O-methyl-2,4-di-O-sulfo-β-D-glucopyranuronosyl-(1→4)-O-3-O-methyl-2,6-di-O-sulfo-α-D-glucopyranosyl-(1→4)-O-3-O-methyl-2-O-sulfo-β-D-glucopyranuronosyl-(1→4)-O-3-O-methyl-2,6-di-O-sulfo-α-D-glucopyranosyl-(1→4)-O-3-O-methyl-2-O-sulfo-β-D-glucopyranuronosyl-(1→4)-O-3-O-methyl-2,6-di-O-sulfo-α-D-glucopyranosyl-(1→4)-O-3-O-methyl-2-O-sulfo-β-D-glucopyranuronosyl-(1→4)-O-3-O-methyl-2,6-di-O-sulfo-α-D-

glucopyranosyl-(1→4)-O-3-O-methyl-2-O-sulfo-β-D-
glucopyranuronosyl-(1→4)-3-O-methyl-, bis(hydrogen sulfate),
henicosasodium salt (9CI) (CA INDEX NAME)

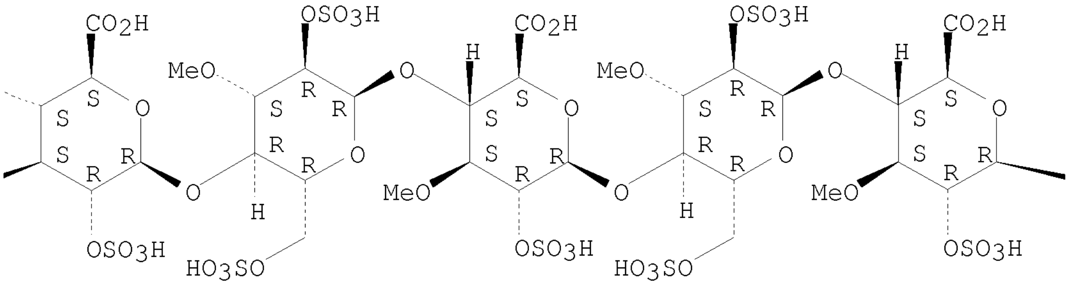
Absolute stereochemistry. Rotation (+).

PAGE 1-A



● 21 Na

PAGE 1-B



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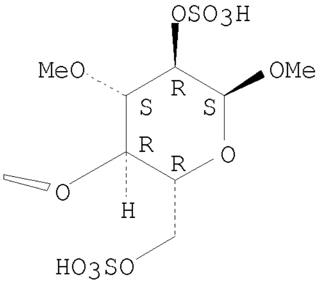

OSC.G 2 THERE ARE 2 CAPLUS RECORDS THAT CITE THIS RECORD (2 CITINGS)
RE.CNT 1 THERE ARE 1 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

```
L4   ANSWER 5 OF 6  HCAPLUS  COPYRIGHT 2010 ACS on STN
TI   A synthetic heparin/heparan sulfate-like decasaccharide releases lipase
     activity in vivo. Chemical preparation and biological activity
AB   A decasaccharide mimic of the heparan sulfate fragment reported to have
     high affinity for lipoprotein lipase has been synthesized, and shown to
     release lipase activity in vivo in the rat.
AN   1997:582971  HCAPLUS <<LOGINID::20100416>>
DN   127:234536
OREF 127:45777a,45780a
TI   A synthetic heparin/heparan sulfate-like decasaccharide releases lipase
     activity in vivo. Chemical preparation and biological activity
AU   Petitou, M.; Duchaussoy, P.; Bernat, A.; Hoffmann, P.; Herbert, J. M.
CS   Sanofi Recherche, Haemobiology Research Department, Toulouse, 31036, Fr.
SO   Bioorganic & Medicinal Chemistry Letters (1997), 7(15), 2067-2070
     CODEN: BMCLE8; ISSN: 0960-894X
PB   Elsevier
DT   Journal
LA   English
IT   191418-15-2P
     RL: BAC (Biological activity or effector, except adverse); BSU (Biological
     study, unclassified); SPN (Synthetic preparation); BIOL (Biological
     study); PREP (Preparation)
        (synthetic heparin/heparan sulfate-like decasaccharide releases lipase
        activity in vivo. chemical preparation and biol. activity)
RN   191418-15-2  HCAPLUS
CN   α-D-Glucopyranoside, methyl O-3-O-methyl-2,4-di-O-sulfo-α-L-
     idopyranuronosyl-(1→4)-O-3-O-methyl-2,6-di-O-sulfo-α-D-
     glucopyranosyl-(1→4)-O-3-O-methyl-2-O-sulfo-α-L-
     idopyranuronosyl-(1→4)-O-3-O-methyl-2,6-di-O-sulfo-α-D-
     glucopyranosyl-(1→4)-O-3-O-methyl-2-O-sulfo-α-L-
     idopyranuronosyl-(1→4)-O-3-O-methyl-2,6-di-O-sulfo-α-D-
     glucopyranosyl-(1→4)-O-3-O-methyl-2-O-sulfo-α-L-
     idopyranuronosyl-(1→4)-O-3-O-methyl-2,6-di-O-sulfo-α-D-
     glucopyranosyl-(1→4)-O-3-O-methyl-2-O-sulfo-α-L-
     idopyranuronosyl-(1→4)-3-O-methyl-, bis(hydrogen sulfate) (9CI)
     (CA INDEX NAME)

Absolute stereochemistry.  Rotation (+).

                                                         PAGE 1-A
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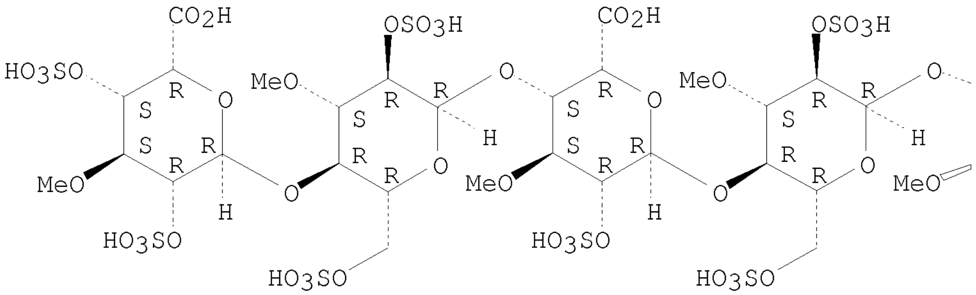

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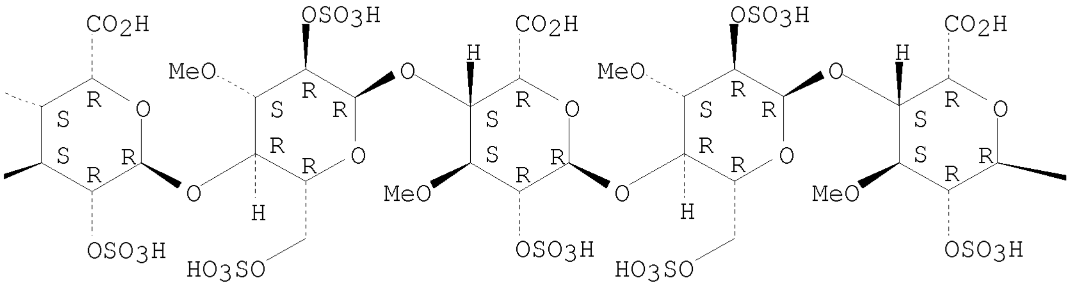

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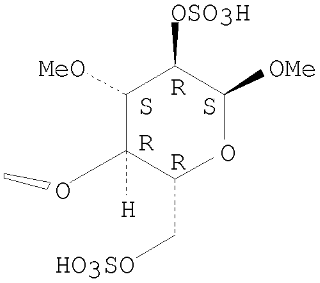

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RE.CNT  12    THERE ARE 12 CITED REFERENCES AVAILABLE FOR THIS RECORD
              ALL CITATIONS AVAILABLE IN THE RE FORMAT

L4   ANSWER 6 OF 6  HCAPLUS  COPYRIGHT 2010 ACS on STN
TI   Polymer-supported solution synthesis of heparan sulfate-like oligomers
AB   The polyethylene glycol (PEG-polymer)-supported solution synthesis of heparan
     sulfate-like oligomers, which differ in length (up till 12-mers) and
     sulfation pattern, is described.
AN   1997:357323  HCAPLUS <<LOGINID::20100416>>
DN   127:66056
OREF 127:12631a,12634a
TI   Polymer-supported solution synthesis of heparan sulfate-like oligomers
AU   Dreef-Tromp, C. M.; Willems, H. A. M.; Westerduin, P.; van Veelen, P.; van
     Boeckel, C. A. A.
CS   N.V. Organon Scientific Development Group, Oss, 5340 BH, Neth.
SO   Bioorganic & Medicinal Chemistry Letters (1997), 7(9), 1175-1180
     CODEN: BMCLE8; ISSN: 0960-894X
PB   Elsevier
DT   Journal
LA   English
IT   191418-11-8P   191418-12-9P   191418-14-1P
     191418-15-2P   191418-16-3P
     RL: SPN (Synthetic preparation); PREP (Preparation)
        (polymer supported solution synthesis of heparan sulfate-like oligomers)
RN   191418-11-8  HCAPLUS
CN   α-D-Glucopyranoside, methyl O-2,3-di-O-methyl-4-O-sulfo-α-L-
     idopyranuronosyl-(1→4)-O-2,3,6-tri-O-sulfo-α-D-glucopyranosyl-
     (1→4)-O-2,3-di-O-methyl-α-L-idopyranuronosyl-(1→4)-O-
     2,3,6-tri-O-sulfo-α-D-glucopyranosyl-(1→4)-O-2,3-di-O-methyl-
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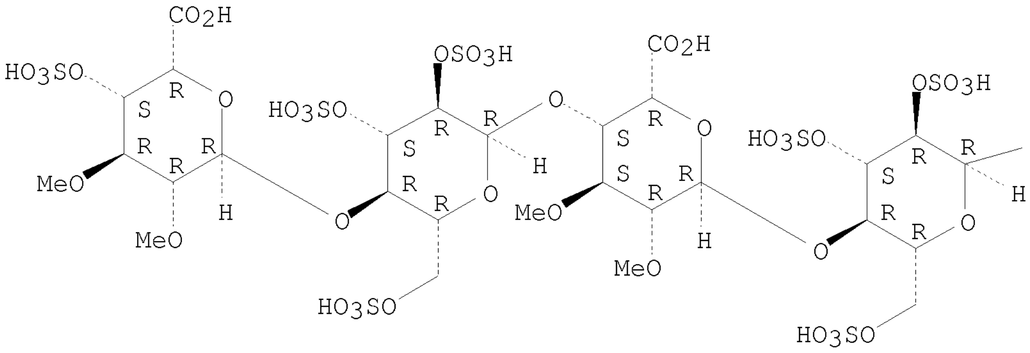
α-L-idopyranuronosyl-(1→4)-O-2,3,6-tri-O-sulfo-α-D-glucopyranosyl-(1→4)-O-2,3-di-O-methyl-α-L-idopyranuronosyl-(1→4)-O-2,3,6-tri-O-sulfo-α-D-glucopyranosyl-(1→4)-O-2,3-di-O-methyl-α-L-idopyranuronosyl-(1→4)-, tris(hydrogen sulfate) (9CI) (CA INDEX NAME)

Absolute stereochemistry. Rotation (+).

PAGE 1-A



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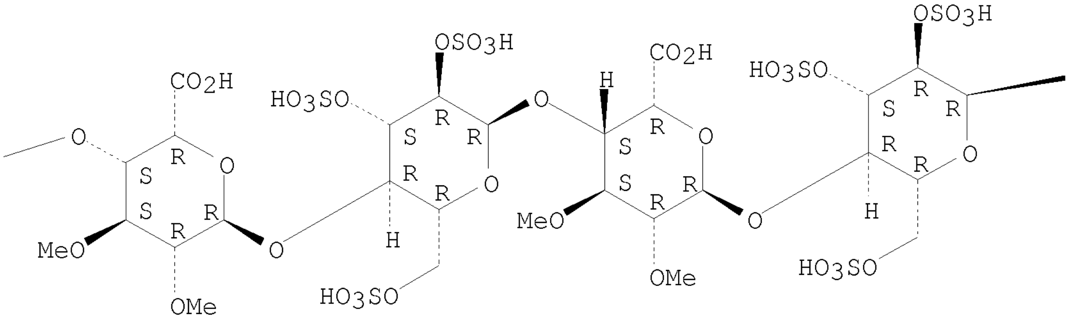

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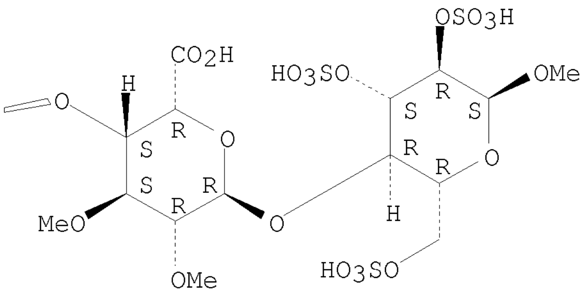

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CN   α-D-Glucopyranoside, methyl O-2,3-di-O-methyl-4-O-sulfo-α-L-
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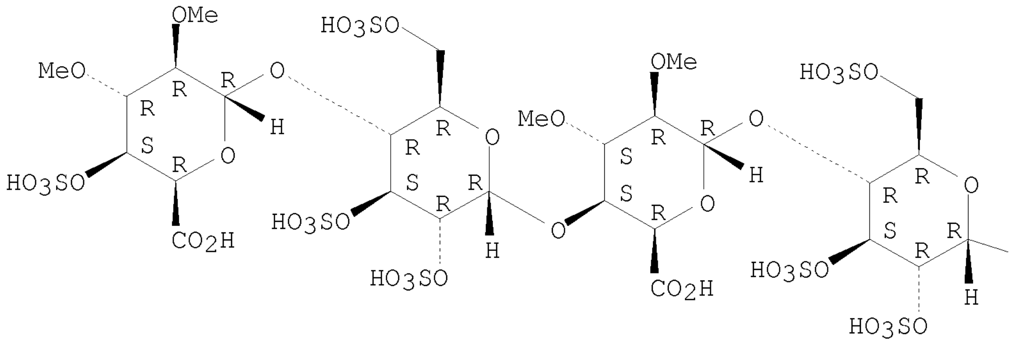
     glucopyranosyl-(1→4)-O-2,3-di-O-methyl-α-L-idopyranuronosyl-
     (1→4)]5-, tris(hydrogen sulfate) (9CI) (CA INDEX NAME)

Absolute stereochemistry. Rotation (+).

PAGE 1-A



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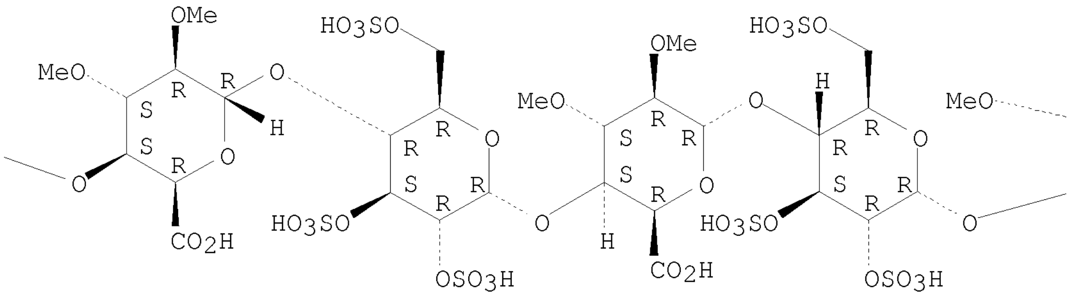

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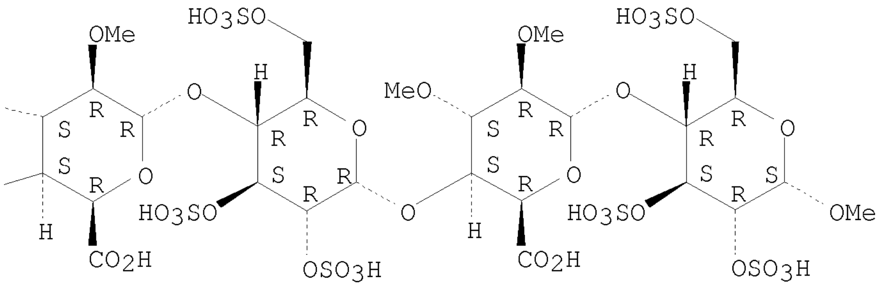

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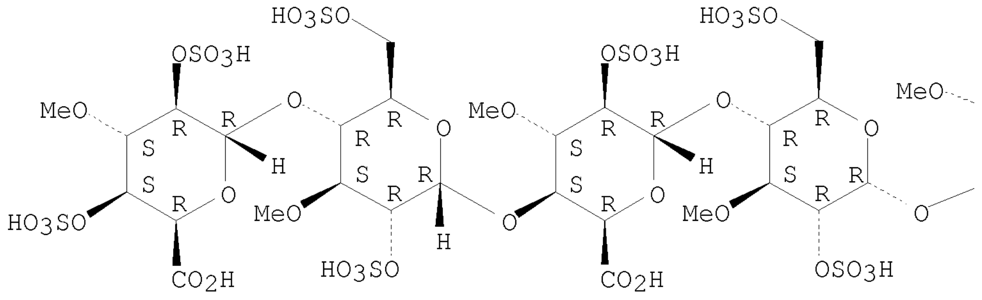
Absolute stereochemistry.

PAGE 1-A



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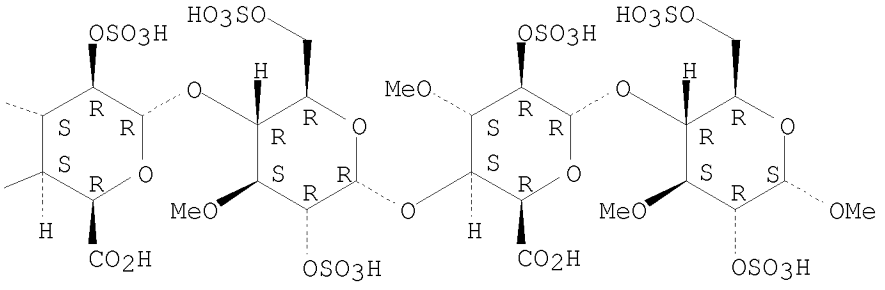
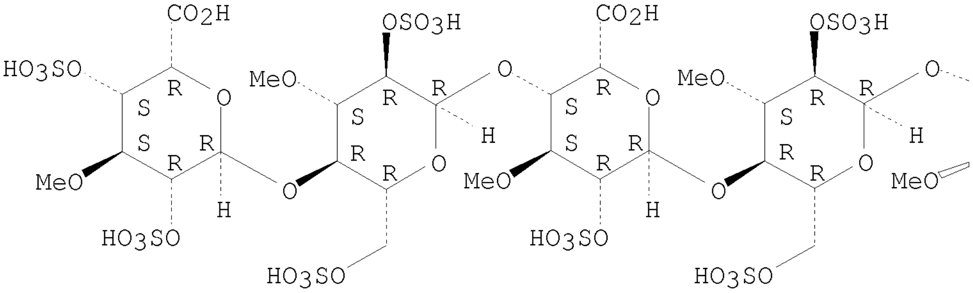


RN 191418-15-2 HCAPLUS

CN α-D-Glucopyranoside, methyl O-3-O-methyl-2,4-di-O-sulfo-α-L-idopyranuronosyl-(1→4)-O-3-O-methyl-2,6-di-O-sulfo-α-D-glucopyranosyl-(1→4)-O-3-O-methyl-2-O-sulfo-α-L-idopyranuronosyl-(1→4)-O-3-O-methyl-2,6-di-O-sulfo-α-D-glucopyranosyl-(1→4)-O-3-O-methyl-2-O-sulfo-α-L-idopyranuronosyl-(1→4)-O-3-O-methyl-2,6-di-O-sulfo-α-D-glucopyranosyl-(1→4)-O-3-O-methyl-2-O-sulfo-α-L-idopyranuronosyl-(1→4)-O-3-O-methyl-2,6-di-O-sulfo-α-D-glucopyranosyl-(1→4)-O-3-O-methyl-2-O-sulfo-α-L-idopyranuronosyl-(1→4)-3-O-methyl-, bis(hydrogen sulfate) (9CI) (CA INDEX NAME)

Absolute stereochemistry. Rotation (+).

PAGE 1-A



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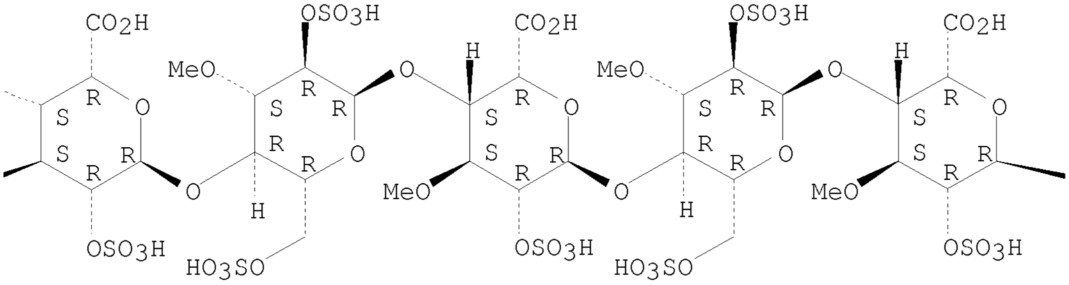

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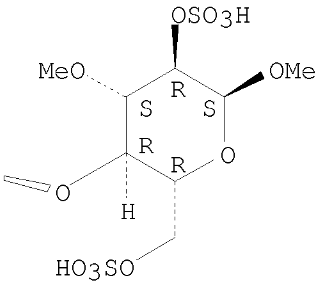

RN   191418-16-3 HCAPLUS
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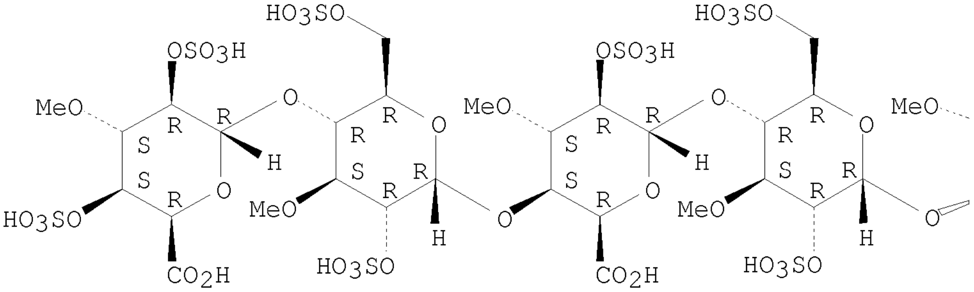
     glucopyranosyl-(1→4)-O-3-O-methyl-2-O-sulfo-α-L-
     idopyranuronosyl-(1→4)-O-3-O-methyl-2,6-di-O-sulfo-α-D-
     glucopyranosyl-(1→4)-O-3-O-methyl-2-O-sulfo-α-L-
     idopyranuronosyl-(1→4)-O-3-O-methyl-2,6-di-O-sulfo-α-D-
     glucopyranosyl-(1→4)-O-3-O-methyl-2-O-sulfo-α-L-
     idopyranuronosyl-(1→4)-O-3-O-methyl-2,6-di-O-sulfo-α-D-
     glucopyranosyl-(1→4)-O-3-O-methyl-2-O-sulfo-α-L-
     idopyranuronosyl-(1→4)-O-3-O-methyl-2,6-di-O-sulfo-α-D-
     glucopyranosyl-(1→4)-O-3-O-methyl-2-O-sulfo-α-L-
     idopyranuronosyl-(1→4)-3-O-methyl-, bis(hydrogen sulfate) (9CI)
     (CA INDEX NAME)

Absolute stereochemistry.

PAGE 1-A



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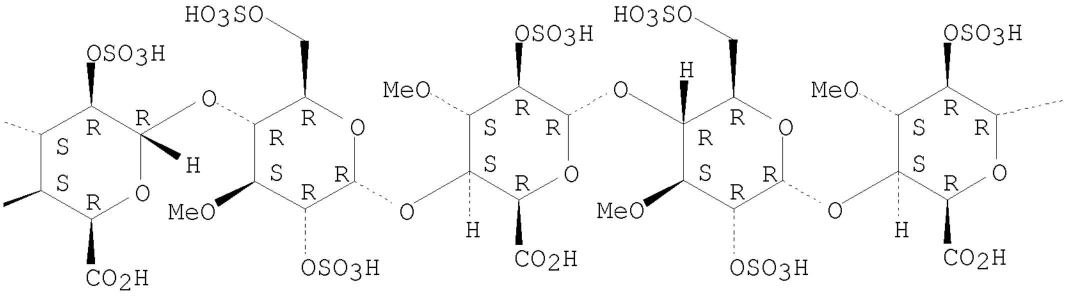

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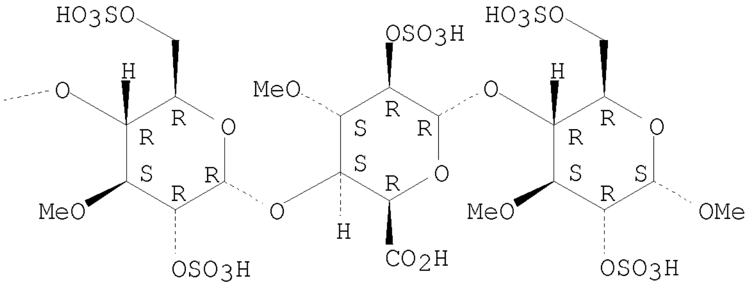

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OSC.G   38    THERE ARE 38 CAPLUS RECORDS THAT CITE THIS RECORD (38 CITINGS)
RE.CNT  20    THERE ARE 20 CITED REFERENCES AVAILABLE FOR THIS RECORD
              ALL CITATIONS AVAILABLE IN THE RE FORMAT


=> d his


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L2              1 S L1
L3             18 S L1 SSS FULL

     FILE 'HCAPLUS' ENTERED AT 11:05:38 ON 16 APR 2010
L4              6 S L3

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FULL ESTIMATED COST                                    37.77     230.02

DISCOUNT AMOUNTS (FOR QUALIFYING ACCOUNTS)        SINCE FILE      TOTAL
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CA SUBSCRIBER PRICE                                    -5.10      -5.10

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FILE COVERS 1907 - 16 Apr 2010  VOL 152 ISS 17
FILE LAST UPDATED: 15 Apr 2010  (20100415/ED)
REVISED CLASS FIELDS (/NCL) LAST RELOADED:  Feb 2010
USPTO MANUAL OF CLASSIFICATIONS THESAURUS ISSUE DATE:  Feb 2010

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This file contains CAS Registry Numbers for easy and accurate
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substance identification.

=> s oligosaccharide or octasaccharide or decasaccharide or dodecasaccharide or
tetradecasaccharide or hexadecasaccharide or octadecasaccharide

         34781 OLIGOSACCHARIDE
           443 OCTASACCHARIDE
           214 DECASACCHARIDE
           112 DODECASACCHARIDE
            44 TETRADECASACCHARIDE
            34 HEXADECASACCHARIDE
            14 OCTADECASACCHARIDE
L5       35183 OLIGOSACCHARIDE OR OCTASACCHARIDE OR DECASACCHARIDE OR DODECASAC
               CHARIDE OR TETRADECASACCHARIDE OR HEXADECASACCHARIDE OR OCTADECA
               SACCHARIDE

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or iduronic or idopyranosyluronic or iduronopyranosyl or (glucopyranoslyl uronic)
or (idopyranosyl uronic) or (glucopyranosyl uronate) or (idopyranosyl uronate))

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The search profile that was entered contains terms or
nested terms that are not separated by a logical operator.

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of L-numbers, enter DISPLAY HISTORY at an arrow prompt (=>).

=> s l7 and (PY<1998 or AY<1998 or PRY<1998)

L7 NOT FOUND
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of L-numbers, enter DISPLAY HISTORY at an arrow prompt (=>).

=> file stnguide

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CA SUBSCRIBER PRICE                                     0.00      -5.10

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CA SUBSCRIBER PRICE                                     0.00      -5.10
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(idopyranosyl uronic) or (glucopyranosyl uronate) or (idopyranosyl uronate))

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=> s l5 and l6

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=> s l7 and (PY<1998 or AY<1998 or PRY<1998)

L7 NOT FOUND
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of L-numbers, enter DISPLAY HISTORY at an arrow prompt (=>).

=> file stnguide

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COST IN U.S. DOLLARS                              SINCE FILE      TOTAL
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DISCOUNT AMOUNTS (FOR QUALIFYING ACCOUNTS)        SINCE FILE      TOTAL
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(idopyranosyl uronic) or (glucopyranosyl uronate) or (idopyranosyl uronate))

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nested terms that are not separated by a logical operator.

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=> file stnguide

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FILE LAST UPDATED: 15 Apr 2010  (20100415/ED)
REVISED CLASS FIELDS (/NCL) LAST RELOADED:  Feb 2010
USPTO MANUAL OF CLASSIFICATIONS THESAURUS ISSUE DATE:  Feb 2010

HCAplus now includes complete International Patent Classification (IPC)
reclassification data for the first quarter of 2010.

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This file contains CAS Registry Numbers for easy and accurate
substance identification.

=> s glucopyranosyl (4a) (glucuronic or glucopyranosyluronic or glucuronopyranosyl
or iduronic or idopyranosyluronic or iduronopyranosyl or (glucopyranoslyl uronic)
or (idopyranosyl uronic) or (glucopyranosyl uronate) or (idopyranosyl uronate))

         14218 GLUCOPYRANOSYL
         13961 GLUCURONIC
           387 GLUCOPYRANOSYLURONIC
           393 GLUCURONOPYRANOSYL
           948 IDURONIC
            75 IDOPYRANOSYLURONIC
             1 IDURONOPYRANOSYL
             0 GLUCOPYRANOSLYL
         10176 URONIC
             0 GLUCOPYRANOSLYL URONIC
                 (GLUCOPYRANOSLYL(W)URONIC)
            53 IDOPYRANOSYL
         10176 URONIC
             3 IDOPYRANOSYL URONIC
                 (IDOPYRANOSYL(W)URONIC)
         14218 GLUCOPYRANOSYL
          1138 URONATE
            35 GLUCOPYRANOSYL URONATE
                 (GLUCOPYRANOSYL(W)URONATE)
            53 IDOPYRANOSYL
          1138 URONATE
             2 IDOPYRANOSYL URONATE
                 (IDOPYRANOSYL(W)URONATE)
L6          88 GLUCOPYRANOSYL (4A) (GLUCURONIC OR GLUCOPYRANOSYLURONIC OR GLUCU
               RONOPYRANOSYL OR IDURONIC OR IDOPYRANOSYLURONIC OR IDURONOPYRANO
               SYL OR (GLUCOPYRANOSLYL URONIC) OR (IDOPYRANOSYL URONIC) OR (GLU
               COPYRANOSYL URONATE) OR (IDOPYRANOSYL URONATE))

=> s l5 and l6

L7           7 L5 AND L6

=> s l7 and (PY<1998 or AY<1998 or PRY<1998)

      18478581 PY<1998
       3301971 AY<1998
       2755287 PRY<1998
L8           5 L7 AND (PY<1998 OR AY<1998 OR PRY<1998)

=> file stnguide

COST IN U.S. DOLLARS                             SINCE FILE      TOTAL
                                                      ENTRY    SESSION
FULL ESTIMATED COST                                    2.91     242.29

DISCOUNT AMOUNTS (FOR QUALIFYING ACCOUNTS)       SINCE FILE      TOTAL
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CA SUBSCRIBER PRICE                                     0.00      -5.10

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FILE CONTAINS CURRENT INFORMATION.
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LAST RELOADED: Apr  9, 2010 (20100409/UP).

=> d l8 1-5 ti abs bib
YOU HAVE REQUESTED DATA FROM FILE 'HCAPLUS' - CONTINUE? (Y)/N:d his
YOU HAVE REQUESTED DATA FROM FILE 'HCAPLUS' - CONTINUE? (Y)/N:log hold
YOU HAVE REQUESTED DATA FROM FILE 'HCAPLUS' - CONTINUE? (Y)/N:y




L8   ANSWER 1 OF 5  HCAPLUS  COPYRIGHT 2010 ACS on STN
TI   New oligosaccharide anticoagulants
AB   The present invention relates tor prevention and treatment of
     thromboembolic diseases by administration of a therapeutically ED of an
     active trisaccharide comprising an iduronic acid, a
     glucopyranosyl or glucopyranosylamine unit and a hexuronic acid
     selected form iduronic acid and glucuronic acid.  The specific
     trisaccharides of the present invention have potent activity towards
     thrombin and also potentiate the inhibition of FXa, even if the
     trisaccharides lack sulfate groups.  With the present invention, safe and
     potent anticoagulants with a potentially high oral absorption are
     achievable, due to the much smaller mol. size and presence of very few, if
     any, sulfate groups compared to presently available anticoagulants.
AN   1997:181133  HCAPLUS <<LOGINID::20100416>>
DN   126:166491
OREF 126:32057a,32060a
TI   New oligosaccharide anticoagulants
IN   Svahn, Carl Magnus; Waksman, Gabriel; Nilsson, Marianne; Westman, Jacob
PA   Pharmacia & Upjohn Ab, Swed.; Washington University; Svahn, Carl Magnus;
     Waksman, Gabriel; Nilsson, Marianne; Westman, Jacob
SO   PCT Int. Appl., 27 pp.
     CODEN: PIXXD2
DT   Patent
LA   English
FAN.CNT 1
     PATENT NO.          KIND   DATE       APPLICATION NO.        DATE
     ----------------    ----   --------    --------------------   --------
PI   WO 9701568           A1    19970116    WO 1996-SE859          19960628 <--
         W:  AL, AU, BG, BR, BY, CA, CN, CZ, EE, FI, HU, IL, IS, JP, KR, LT,
             LV, MK, MX, NO, NZ, PL, RO, RU, SG, SI, SK, TR, UA, US, VN, AM,
             AZ, KG, KZ, MD, TJ, TM
         RW: AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE
     AU 9663249           A     19970130    AU 1996-63249          19960628 <--
     AU 706002            B2    19990603
     EP 837868            A1    19980429    EP 1996-922351         19960628 <--
         R:  AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT,
             IE, FI
PRAI US 1995-1040P        P     19950629  <--
     SE 1995-2656         A     19950719  <--
     WO 1996-SE859        W     19960628  <--
OSC.G   1     THERE ARE 1 CAPLUS RECORDS THAT CITE THIS RECORD (1 CITINGS)
RE.CNT  4     THERE ARE 4 CITED REFERENCES AVAILABLE FOR THIS RECORD
              ALL CITATIONS AVAILABLE IN THE RE FORMAT

L8   ANSWER 2 OF 5  HCAPLUS  COPYRIGHT 2010 ACS on STN
TI   Synthesis of structural elements of the capsular polysaccharide of
     Streptococcus pneumonia type 8
AB   The synthesis is reported of Pr 4-O-α-D-galactopyranosyl-β-D-
     glucopyranosiduronic acid, 5-O-[4-O-(β-D-glucopyranosyluronic
     acid)-β-D- glucopyranosyluronic acid)-β-D-
     glucopyranosyl]-D-glucopyranose, and
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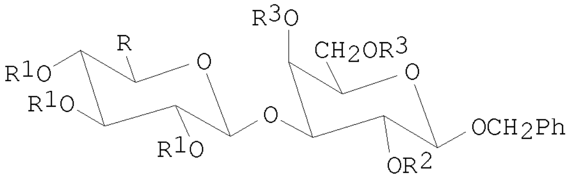
4-O-β-D-glucopyranosyl-α-D-glucopyranosyl)-D-galactopyranose, each representing a structural element of the repeating unit of the capsular polysaccharide of Streptococcus pneumoniae type 8, [→4)-β-D-GlcpA-(1→4)-β-D-Glcp-(1→4)-α-D-Glcp-(1→4)-α-D-Galp-(1→]n.
AN 1993:650333 HCAPLUS <<LOGINID::20100416>>
DN 119:250333
OREF 119:44677a,44680a
TI Synthesis of structural elements of the capsular polysaccharide of Streptococcus pneumonia type 8
AU Koeman, Franciscus A. W.; Kamerling, Johannis P.; Vliegenthart, Johannes F. G.
CS Bijvoet Cent., Utrecht Univ., Utrecht, 3508 TB, Neth.
SO Tetrahedron (1993), 49(24), 5291-304
CODEN: TETRAB; ISSN: 0040-4020
DT Journal
LA English
OSC.G 22 THERE ARE 22 CAPLUS RECORDS THAT CITE THIS RECORD (22 CITINGS)

L8 ANSWER 3 OF 5 HCAPLUS COPYRIGHT 2010 ACS on STN
TI Synthesis of β-D-GlcA-(1 → 3)-β-D-Gal disaccharides with 4- and 6-sulfate groups and 4,6-disulfate groups
GI



I

AB Disaccharides with 4- and 6-sulfate and 4,6-disulfate groups, e.g. I (R = CO2Na, R1 = R2 = H, R3 = SO3Na), were prepared via sulfation of the key intermediate I (R = CO2Me, R1 = Ac, R2 = Bz, R3 = H) with SO3-NMe3.
AN 1991:583745 HCAPLUS <<LOGINID::20100416>>
DN 115:183745
OREF 115:31405a,31408a
TI Synthesis of β-D-GlcA-(1 → 3)-β-D-Gal disaccharides with 4- and 6-sulfate groups and 4,6-disulfate groups
AU Zsiska, Marianne; Meyer, Bernd
CS Complex Carbohydr. Res. Cent., Univ. Georgia, Athens, GA, 30602, USA
SO Carbohydrate Research (1991), 215(2), 279-92
CODEN: CRBRAT; ISSN: 0008-6215
DT Journal
LA English
OS CASREACT 115:183745
OSC.G 12 THERE ARE 12 CAPLUS RECORDS THAT CITE THIS RECORD (12 CITINGS)

L8 ANSWER 4 OF 5 HCAPLUS COPYRIGHT 2010 ACS on STN
TI Synthetic studies on oligosaccharide of a glycolipid from the spermatozoa of bivalves. Part II. Synthesis of a precursor of 3-O-(2-acetamido-2-deoxy-3-O-methyl-α-D-galactopyranosyl)-4-O-(4-O-methyl-β-D-gluco-pyranosyluronic acid)-L-fucose
AB The glycosphingolipids isolated from spermatozoa of a fresh-water bivalve, Hyriopsis schlegelii, have a unique structure containing one or two mannosyl residues, novel linkages including an internal fucopyranosyl residue, as well as terminal xylosyl and 4-O-Me glucopyranosyluronic acid groups. The

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     trisaccharide derivs. that constitute the partial structure of lipid IV
     were synthesized as follows.  Condensation of
     4,6-di-O-acetyl-2-azido-2-deoxy-3-O-methyl-α-D-galactopyranosyl
     bromide with 2-(trimethylsilyl)ethyl
     4-O-acetyl-2-O-benzyl-β-L-fucopyranoside, in the presence of Hg(CN)2
     and HgBr2, gave the corresponding disaccharide in 87% yield.  Condensation
     of Me (2,3-di-O-acetyl-4-O-methyl-α-D-glucopyranosyl bromide)uronate
     with the appropriate OH-4-free disaccharide derivative afforded the
     4-O-Me-β-D-GlcpA-(1→4)-[3-O-me-α-D-Galp-NAc-(1→3)-
     L-Fuc precursor 2-(trimethylsilyl)ethyl
     2-O-benzyl-3-O-(4,6-di-O-acetyl-2-azido-2-deoxy-3-O-methyl-α-D-
     galactopyranosyl]-4-O-[methyl(2,3-di-O-acetyl-4-methyl-β-D-
     glucopyranosyl)uronate]-β-L-fucopyranoside.
AN   1990:77796  HCAPLUS <<LOGINID::20100416>>
DN   112:77796
OREF 112:13319a,13322a
TI   Synthetic studies on oligosaccharide of a glycolipid from the
     spermatozoa of bivalves.  Part II.  Synthesis of a precursor of
     3-O-(2-acetamido-2-deoxy-3-O-methyl-α-D-galactopyranosyl)-4-O-(4-O-
     methyl-β-D-gluco-pyranosyluronic acid)-L-fucose
AU   Kanie, Osamu; Takeda, Tadahiro; Ogihara, Yukio
CS   Fac. Pharm. Sci., Nagoya City Univ., Nagoya, 467, Japan
SO   Carbohydrate Research (1989), 190(1), 53-64
     CODEN: CRBRAT; ISSN: 0008-6215
DT   Journal
LA   English
OS   CASREACT 112:77796
OSC.G   8     THERE ARE 8 CAPLUS RECORDS THAT CITE THIS RECORD (8 CITINGS)

L8   ANSWER 5 OF 5  HCAPLUS  COPYRIGHT 2010 ACS on STN
TI   Aspergillus niger. XI. Enzymic synthesis of a pseudoaldobiouronic acid
AB   cf. C.A. 52, 17368a.  Two acidic oligosaccharides produced when A. niger
     152 was grown in a medium containing maltose (I) and D-glucurone (II) as the
     sole sources of C were characterized as 2-O-α-D-
     glucopyranosyl-D-glucuronic acid (III) and
     O-α-D-glucopyranosyl-(1 → 6)-O-α-D-
     glucopyranosyl-(1 → 2)-D- glucuronic acid (IV).
     Medium (1 l.) was prepared containing 215 g. NH4NO3, 1.0 g. KH2PO4, 0.25 g.
     MgSO4.7H2O, 0.05 g. FeSO4.7H2O, 0.05 g. ZnSO4.7H2O, 1 cc. N HC., 20 g.
     I.H2O, and 20 g. II.  Erlenmeyer flasks (each containing 50 cc. medium)
     autoclaved 20 min. at 15 lb./sq. in., cooled, inoculated with A. niger 152
     from malt-agar slopes, incubated at 30°, after 150 hrs. (when most
     of the I was consumed) the culture filtered, the mycelium washed with 3
     50-cc. portions H2O, the filtrate and washings combined, neutralized,
     boiled 10 min., cooled, the solution treated with N NaOH to a constant pH of
     8.0, concentrated in vacuo below 40°, and freeze-dried gave 17 g. solid
     (V).  V (17 g.) in 150 cc. H2O added to a carbon-Celite column (45 cm.
     + 6 cm.) and the column successively washed with H2O eluted fraction
     1 [350 cc. containing Na D-glucuronate (VI), fraction 2 [500 cc. containing
5.1 g.
     VI and D-glucose (VII)], fraction 3 (600 cc. containing mainly 0.30 g. III),
     fraction 4 (800 cc. containing 0.20 g. III), and fraction 5 (1700 cc.
containing
     0.36 g. III); continued gradient elution with 0 → 5% aqueous EtOH gave
     fraction 6 (4050 cc. containing 0.34 g. III), fraction 7 [900 cc. containing
0.17
     g. III and neutral oligosaccharides (VIII)], and fraction 8 (150 cc.
     containing 0.05 g. III, VIII, and IV); further gradient elution with 5
     → 10% aqueous EtOH gave fraction 9 (1600 cc. containing 0.31 g. VIII and
     IV) and fraction 10 (1800 cc. containing 0.99 g. VII).  Fraction 9 (0.28 g.)
     in 60 cc. H2O stirred 24 hrs. with 12 g. Deacidite FF (CO3-- form) (IX),
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the mixture packed into a column, the resin washed with H2O, and the eluate freeze-dried gave 0.158 g. VIII. Elution with 500 cc. N (NH4)2CO3 and the eluate treated with Zeo-Karb 225 (H+ form) (X) and freeze-dried gave 0.105 g. IV. III (free acid) was similarly recovered from fraction 7. III Na salt (from fractions 4 and 6) was a white hygroscopic powder, [α]18D 89.0° (c 2, H2O), ν 3380, 2915, 2340, 1215, 1617, 1565, 1545, 1512, 1420, 1362, 1311, 1260, 1207, 1162, 1145, 1050, 955, 919, 852, 775, and 670 cm.-1; III (free acid from fraction 7) had ν 3380, 2910, 2330, 2105, 1782, 1645, 1527, 1420, 1355, 1265, 1207, 1155, 1055, 919, 845, and 780 cm.-1 III moved as a single component Rglucose 0.34 in 4:1:5 BuOH-AcOH-H2O and 0.47 in 18:3:1:4 Et-OAc-AcOH-HCO2H-H2O, detectable with aniline H phthalate (XI) or AgNO3-NaOH but not with alkaline triphenyltetrazolium chloride (XII). III Na salt (50 mg.) dissolved in 6 cc. 1.5N H2SO4, the solution divided into three 2-cc. portions which were heated severally 1, 2, and 3 hrs. at 100°, the hydrolyzates neutralized with BaCO3 [paper chromatography showed only VII and glucuronic acid (XIII) in all 3 hydrolyzates, combined, concentrated in vacuo at 40°, and separated into bands on 2 sheets of Whatman Number 1 paper (47 + 57 cm.) irrigated 3 days with 4:1:5 BuOH-AcOH-H2O, the strip containing VII eluted, the eluate concentrated to a sirup (12.6 mg.), refluxed 15 min. with a 0.5 cc. aliquot of a solution containing 9 g. 4-O2NC6H4NH2, 200 cc. MeOH, and 0.14 cc. concentrated HCl yielded 6.1 mg. N-(p-nitrophenyl)-β-D-glucopyranosylamine-2H2O, m.p. and mixed m.p. 184° (MeOH). The strip containing Ba glucuronate eluted, the eluate treated with Amberlite IR-120 (H+ form) (XIV), concentrated to a sirup (12.8 mg.), repeatedly evaporated with MeOH, and heated 3 hrs. in vacuo at 40-50° gave sirupy XIII lactone characterized as N-(p-nitrophenyl)-D-glucuronosylamine, m.p. and mixed m.p. 128-30°. Uronic acid determination (Barker, et al., C.A. 53, 6337i) showed that 1 mole XIII was contained in 379 g. III Na salt. Oxidation of III Na salt with hypoiodite showed a mol. weight of 376. III (19 mg. in 36 cc. H2O treated with 7.2 cc. 0.1N iodine and 15 cc. of a solution containing 0.2M NaHCO3 and 0.2M Na2CO3, after 2 hrs. at room temperature excess 30% aqueous CH2O added, after 1 hr. the solution freeze-dried, the residue dissolved in H2O, the solution treated with excess XIV, the eluate neutralized with Ag2CO3, concentrated by freeze-drying, again passed down a column of XIV, the eluate freeze-dried, the residue (12.4 mg.) hydrolyzed with 2N HCl 2 hrs. at 100°, the HCl removed with (n-C8H17)2NMe, the aqueous solution stirred 20 hrs. with 0.7 g. IX, and the resin eluted with H2O gave 6.8 mg. VII, which heated 20 min. at 90° with 0.2 cc. PhNHNH2 in 1.7 cc. 40% AcOH gave D-glucosazone, m.p. and mixed m.p. 196-8° (decomposition). The resin eluted with 35 cc. N (NH4)2CO3, the eluate treated with X, CO2 removed, a few drops aqueous NH3 added, and the solution freeze-dried gave 7.9 mg. residue; paper ionophoresis indicated it contained only a single compound with the mobility of D-glucaric acid (XV) di-K salt. III (0.38 g.), 10 cc. HC(OEt)3 (XVI), and 0.07 cc. concentrated HCl shaken 36 hrs. at room temperature [whenever the suspension became neutral addnl. amts. of HCl (not exceeding 0.1 cc. each time) were added, up to a total of 0.45 cc.], the mixture centrifuged, the residue washed with 2 25-cc. portions XVI, the supernatant liquid and washings combined, treated with excess CH2N2-Et2O, after several hrs. concentrated in vacuo at 40°, the residue repeatedly dissolved in EtOH and the solution concentrated (removal of XVI), the product in 10 cc. dry dioxane (XVII) stirred 24 hrs. with 0.3 g. LiAlH4 in 300 cc. XVII, excess LiAlH4 destroyed with 10 cc. EtOAc and then 10 cc. H2O, the filtrate and washings concentrated in vacuo at 40°, the residue dissolved in H2O, the solution freeze-dried, the residue (423 mg.) extracted with Me2CO, the extract evaporated, the sirup (260 mg.) hydrolyzed with 10 cc. 0.1N HCl 4 days at room temperature and 5 hrs. at 60° [paper chromatography in 18:3:1:4 EtOAc-AcOH-HCO2H-H2O showed components with the mobilities of a disaccharide (XVIII) and VII], the mixture streaked across 8 sheets of Whatman Number 1 paper (46 + 57 cm.), irrigated with 40:10:49:1 BuOH-EtOH-H2O-NH4-OH, and the strips containing XVIII eluted gave 32.5 mg. 2-O-α-D-glucopyranosyl-D-glucose (kojibiose), MG 0.30 on ionophoresis in borate buffer, [α]D 121° (c 0.15, H2O), detectable with XI or alkaline AgNO3 but not with XII, having an almost stoichiometric reaction (89%) with alkaline hypoiodite. III (free acid) (190 mg. in 25 cc. MeOh esterified with excess CH2N2-Et2O, the solution concentrated in vacuo at 40°, the residue dissolved in 15 cc. H2O, the solution added dropwise to 200 mg. NaBH4 in 20 cc. H2O, after 12 hrs. at 18° the excess Na-BH4 destroyed, the solution treated with 10 cc. XIV, freeze-dried, the residue freed of B(OH)3 as B(OMe)3, the solution freeze-dried, the residue (123.4 mg.) dissolved in H2O, the solution treated with IX, and freeze-dried gave 45.9 mg. 2-O-α-D-glucopyranosyl-D-glucitol, [α]21D 81° (c 0.3, H2O), Rglucose 0.41 (in 40:10:49:1 BuOH-EtOH-H2O-NH4OH), MG 0.26 (in 2M borate buffer of pH 10), consuming 4.5 moles periodate and liberating 2.85 moles HCO2H and 0.95 mole CH2O. IV Na salt had [α]19D 110° (c 0.07, H2O), ν 3420, 2940, 2380, 1615, 1420, 1150, 1110, 1050, 955, 920, 835, and 765 cm.-1, Rglucose 0.13 (in 4:1:5 BuOH-AcOH-H2O), detectable with XI and alkaline AgNO3. IV (14 mg.) hydrolyzed 1 hr. at 80-90° with 7.5 cc. N H2SO4, the solution neutralized with BaCO3, and freeze-dried gave 17.5 mg product which, on paper ionophoresis in 0.2M acetate buffer of pH 5.0, showed the presence of neutral compds. unchanged IV, an acidic oligosaccharide with the same mobility as III, and XIII; the product on paper ionophoresis in 0.2M borate buffer of pH 10.0 showed the presence of XIII, VII, III, IV, and probably a disaccharide; the product on paper chromatographic analysis in 40:10:49:1 BuOH-EtOH-H2O-NH4OH showed VII and isomaltose (XIX) in addition to 3 acid compds. The above hydrolyzate shaken 24 hrs. with 1 g. IX, filtered, and the filtrate freeze-dried gave 5.7 mg. residue, which, on ionophoresis in 2M borate buffer (pH 10.0), confirmed that the only neutral compds. present were VII and XIX. On hypoiodite oxidation, IV consumed the amount of iodine expected of a reducing trisaccharide of mol. weight 518. IV (35 mg.) in 100 cc. H2O mixed with 20 cc. 0.1N iodine, 40 cc. solution containing 0.2M Na2CO3 and 0.2M NaHCO3 added, and after 2 hrs. ions etc. removed as for III gave 16 mg. oxidized compds. (XX), Mglucuronic acid 0.95 (in 0.2M acetate buffer of pH 5.0; XX hydrolyzed 1 hr. at 90° with 2 cc. N 2SO4, the solution neutralizing as above, and freeze-dried gave 17 mg. product containing VII, XIX, XV, and a non-reducing acidic disaccharide; no XIII or D-gluconic acid were detected.

AN   1960:44244 HCAPLUS <<LOGINID::20100416>>
DN   54:44244
OREF 54:8648e-i,8649a-i,8650a-d
TI   Aspergillus niger. XI. Enzymic synthesis of a pseudoaldobiouronic acid
AU   Barker, S. A.; Gomez-Sanchez, A.; Stacey, M.
CS   Univ. Birmingham, UK
SO   Journal of the Chemical Society (1959) 3264-9
     CODEN: JCSOA9; ISSN: 0368-1769
DT   Journal
LA   Unavailable
OSC.G   1   THERE ARE 1 CAPLUS RECORDS THAT CITE THIS RECORD (1 CITINGS)